p/a

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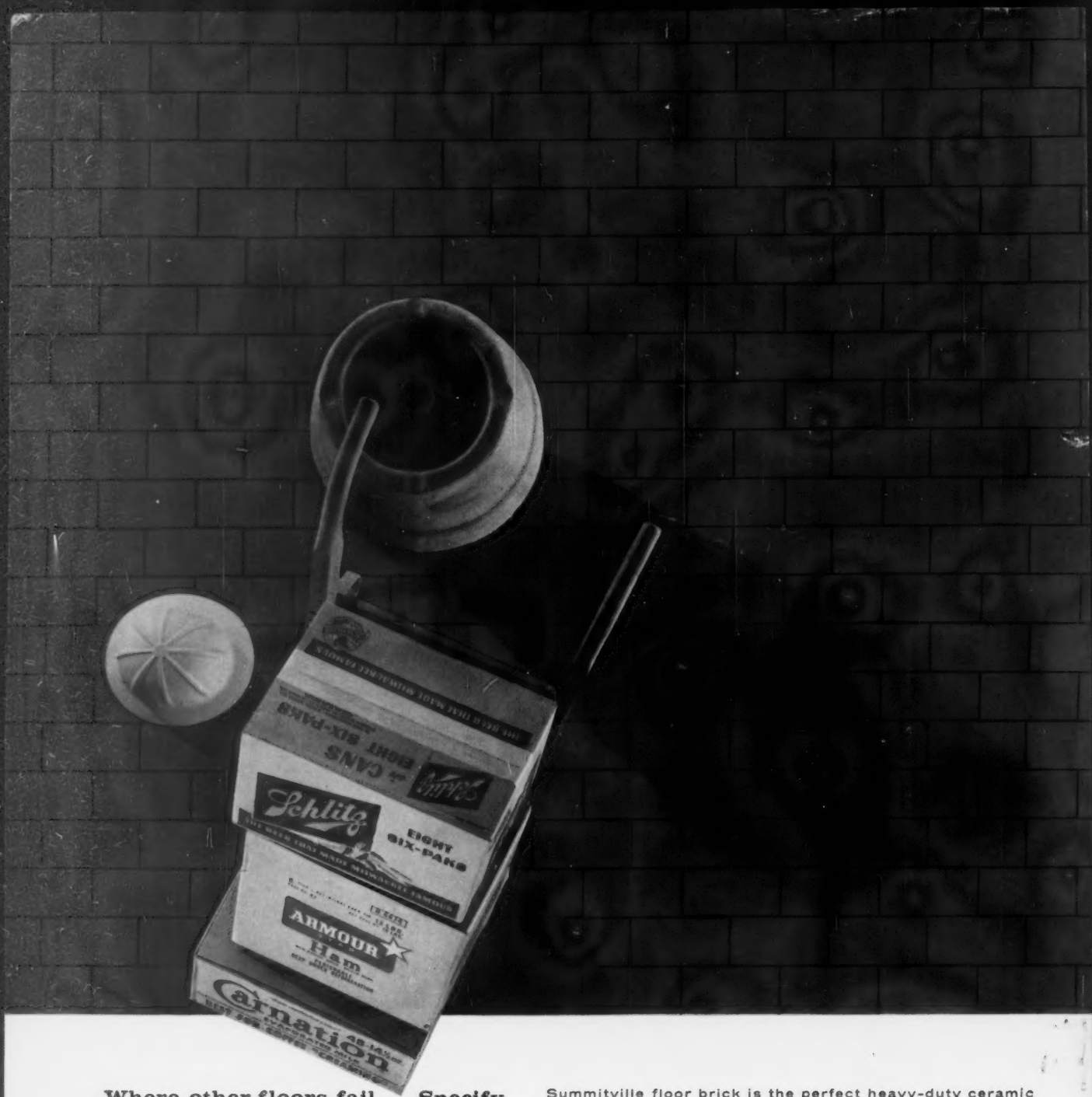
PROGRESSIVE ARCHITECTURE



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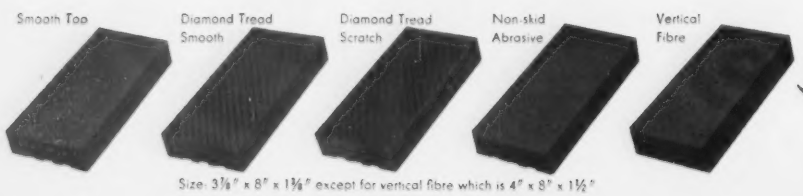

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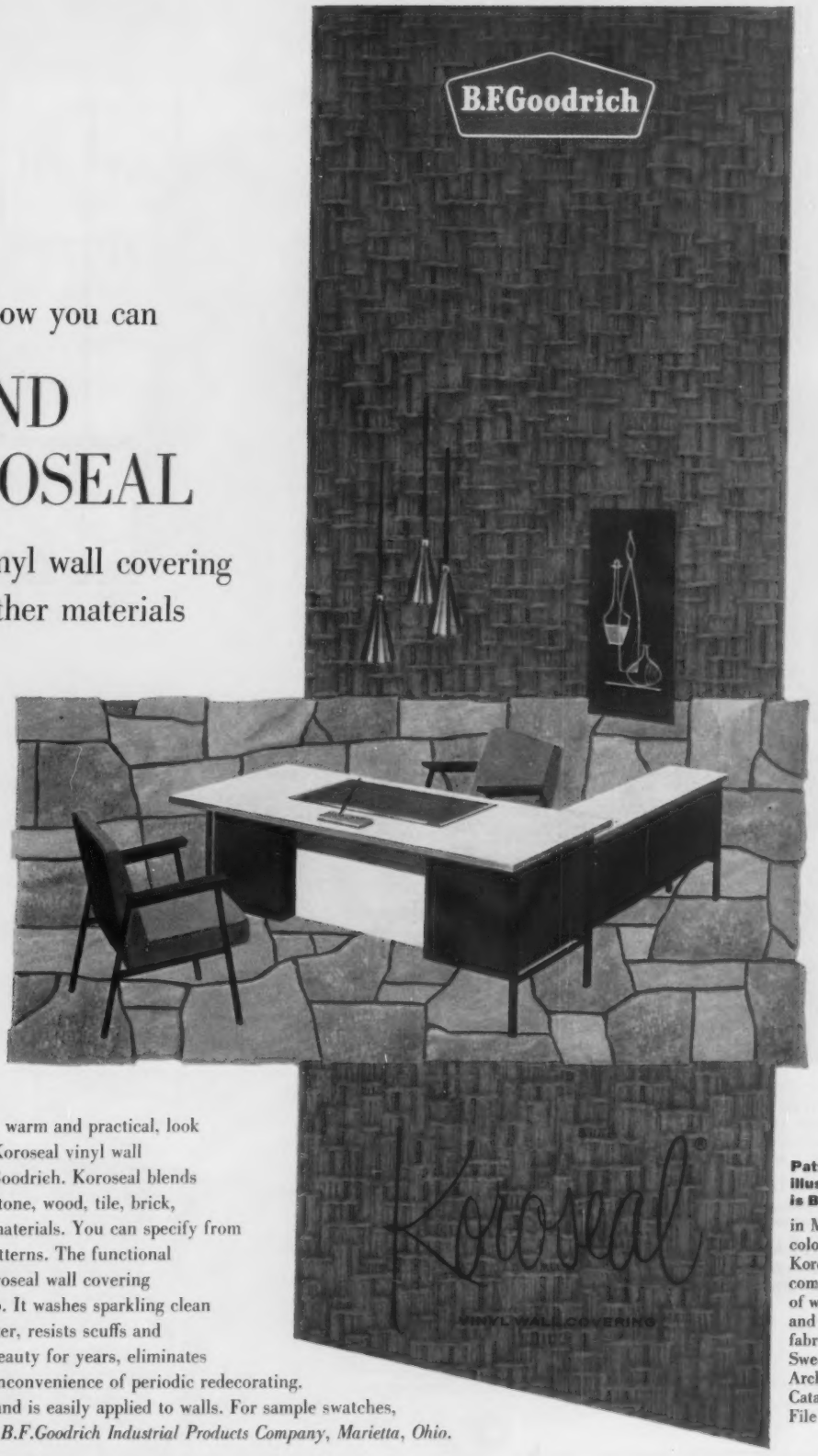

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PROGRESSIVE ARCHITECTURE

April 1960

cover Sun Screen on Hunter College Library/Classrooms. Marcel Breuer, Architect. (See page 178) photo by Ben Schnall

7 **It's The Law** by Bernard Tomson and Norman Coplan
9 **Specifications Clinic** by Harold J. Rosen
11 **Mechanical Engineering Critique** by William J. McGuinness

53 **Views**

P/A NEWS REPORT

77 **Bay Area Firms Vie for Golden Gateway Commission**
82 **Ground Is Broken for Wright's Marin County Center**
84 **Bulletins: Bay Area Portfolio**
93 **Washington/Financial News**
107 **New Products**
113 **Manufacturers' Data**

134 **Kenneth Reid: 1893—1960**

135 **Some Aspects of South American Architecture**
By Sibyl Moholy-Nagy

141 The Architect and His Community
Curtis & Davis: New Orleans, Louisiana

general practice

156 **Lawyers' Offices: Long Beach, California**
Killingsworth, Brady & Smith, Architects
160 **Seamen's Building: San Pedro, California**
Winslow & Waltz and Joncich & Lusby, Associated Architects
166 **Longshoremen's Building: San Francisco, California**
Henry Hill and John W. Kruse, Associated Architects
170 **Car Wash: Burlingame, California**
Francis Joseph McCarthy, Architect

interior design data

171 **Two Showrooms** by Barbara J. Melnick
171 **Thonet Industries, Inc.: New York, N. Y.**
Felix Augenfeld, Architect
175 **I. Miller & Sons Co.: New York, N. Y.**
Designs for Business, Inc., Interior Designers

178 Hunter College Library/Classrooms: Bronx, N. Y.
Marcel Breuer, Architect

selected details

188 **Sun Screen:** Hunter College
189 **Altar:** Bellevue, Washington

materials and methods

190 **Watts Towers Show Structural Capacity of Lathing**
By Phoebe S. Goldstone
194 **Unusual Method of Fabrication Welds Tapered Members**

215 **Reviews:** Architecture's Forgotten Period
268 **Jobs and Men**
280 **Advertisers' Directory**
282 **P.S.:** The Art Galleries

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Published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Second-class mail privilege authorized at New York, N. Y. Professional subscription—$5. (For full data, see page 53.)
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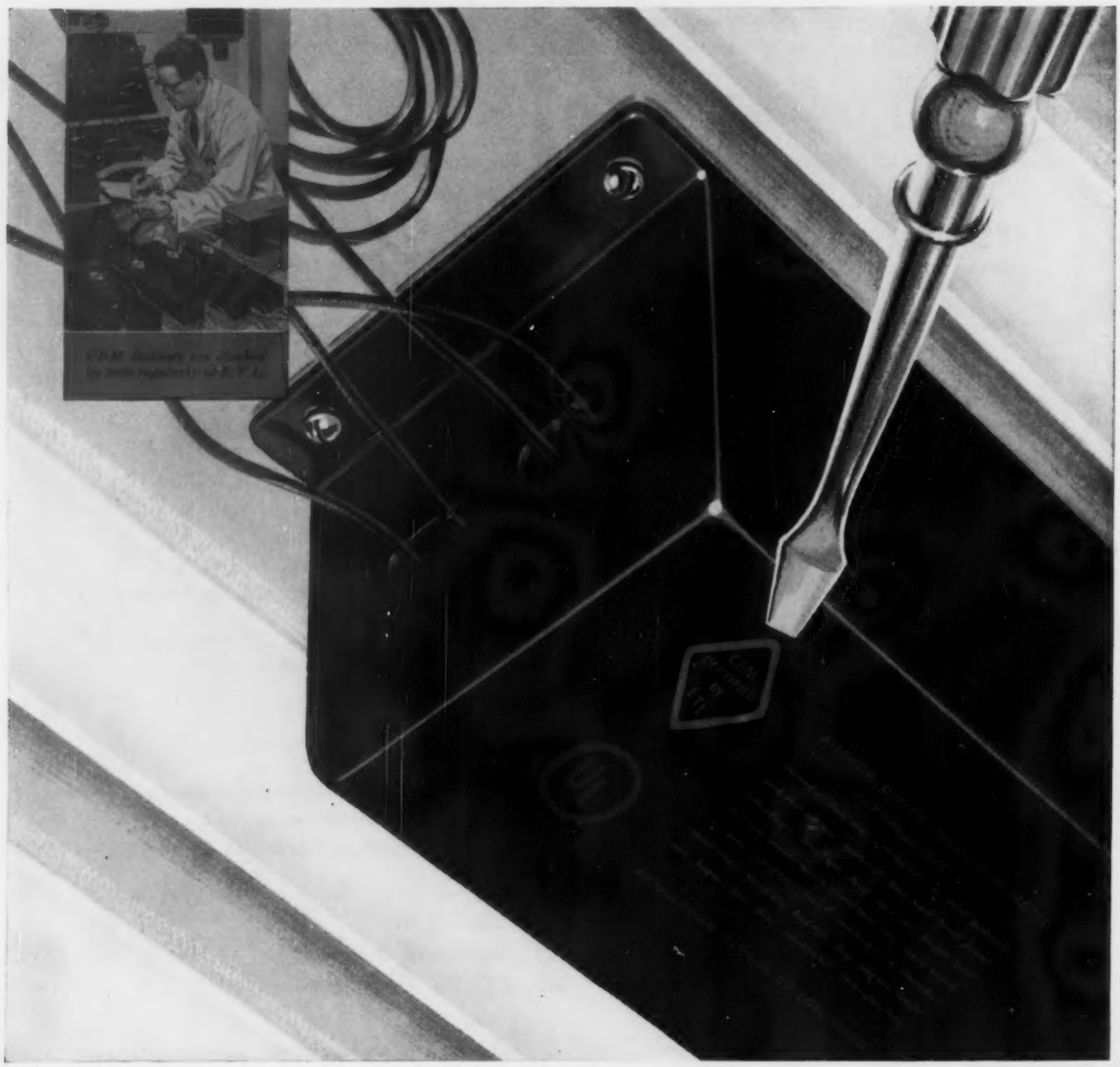

Architect's "Judgment" or Arbitration?

It's the Law Column by Bernard Tomson and Norman Coplan

P/A Practice of Architecture ***article describing how an ambiguous contract made it uncertain whether the architect's decision or arbitration should settle a dispute between owner and contractor.***

Construction contracts often provide that the determination by the architect of all disputes between the owner and contractor shall be final and conclusive. This procedure has been held to be lawful and effective, even if applied to a dispute which involves the intent or interpretation of the architect's plans and specifications (IT'S THE LAW JULY 1958 P/A). In many instances, however, the construction contract is ambiguously formulated by the inclusion of arbitration clauses which are seemingly inconsistent, and which cast doubt on the status of the architect under the contract. A recent New York case (*In re Incorporated Village of Valley Stream*, N.Y.L.J. Dec. 30, 1959) is illustrative of this problem.

In 1957, the Village of Valley Stream entered into a contract for the construction of a fire house. The agreement contained a one-year guaranty-and-maintenance period, commencing from the date of the architect's final certificate, and permitted the owner for this period of one year, to retain 1½% of the cost of the work. The contract read as follows:

"30. Maintenance: The contractor shall maintain all the work constructed under this contract in good order, condition and repair, *to the satisfaction of the architect*, for a period of one (1) year from the date of the Architect's final certificate and the Owner shall and may retain a sum amounting to one and one-half percent (1½%) of the total cost of the work herein contracted for during the period of one (1) year from the date of such certificate."

This clause further required the contractor to remedy any defects that might appear during the one-year guaranty period "to the satisfaction of the Architect and to the Owner," and further provided that in the event that the contractor neglected to carry out this obligation, the owner could cause all such defects to be repaired, charge the expense to the contractor, and deduct that sum from the monies retained. The contract also stated:

"The order of the Architect as to the condition of the work constructed under this Contract, the extent of the remedies applied and of the repairs made and of the cost thereof, shall be binding and conclusive upon the Contractor, his assigns and sureties."

The owner asserted that during the one-year guaranty period, certain conditions were discovered which required repair, but which the contractor, after notice, failed to correct. The contractor, on the other hand, contended that the conditions complained of were not occasioned through his fault, but were due to the fault of the architect in the preparation of plans and specifications. The contractor demanded arbitration of this dispute, and the question for determination by the court was whether the contractor was entitled to arbitration, or whether he was bound by the architect's judgment as to the adequacy of the contractor's performance.

The construction contract contained an article entitled "Arbitration": which provided in part, the following:

"17. Arbitration: All questions subject to arbitration under this Contract shall be submitted to arbitration at the choice of either party to the dispute. The parties may agree upon one arbitrator; otherwise, there shall be three, one named by each party to this Contract, and the third by the two thus chosen. No one shall be chosen to act as an arbitrator who is in any way financially interested in the Contract or in the business affairs of either Board, Contractor, or Architect."

Another article of the contract contained a paragraph defining the architect's status. This provision stated the following:

"38. Architect's Status: The Architect shall have general supervision and direction of the work. He has authority to stop work whenever such stoppage may be necessary to insure the proper execution of the Contract. In order to prevent all disputes and litigations, the Architect shall, in all cases, determine the amount of quality of the several kinds of work and materials that are to be paid for under this contract and shall determine all questions in relation to said work and materials and the construction thereof; and he shall in all cases decide every question that may arise relative to the execution of his contract on the part of the Contractor, and his estimate and decision shall be final and conclusive upon the contractor and his estimate and decision, in case any question shall arise, shall be a condition precedent to the right of the Contractor to receive any money under this contract."

The owner contended that the dispute before the court was not subject to arbitration, as paragraphs 30 and 38 above quoted made the determination by the architect of any question concerning the contractor's performance final and conclusive on the contractor. The contractor, in answer to this argument, argued that to give the arbitration clause (par. 17) any meaning, it must certainly follow that a dispute which involved the architect's performance was intended for arbitration rather than determination by the architect himself.

The court, however, in construing the contract, ruled that the architect's determination was binding upon the contractor even though the dispute involved the adequacy of the architect's plans and specifications. The court said:

"To interpret the contract to the effect that the parties intended by its terms that any dispute arising between the contractor and the architect under sections 25 and 30 were subject to arbitration would be to nullify completely section 38 of the contract and all other sections therein in which it is agreed that the architect's word and decision shall be final. As noted in Williston on Contracts (Revised Edition, Vol 6, section 1922) general arbitration clauses are frequently inserted in contracts as a mere matter of routine and not deliberately. Whether or not there are provisions of this contract which would be a proper subject of arbitration under paragraph 17, does not enter this situation or concern the court. Suffice it to say that this court cannot and will not re-write the contract between the parties so as to completely nullify the many provisions contained in this contract for the protection of the municipality against 'disputes' and 'litigations'."

If, in the case discussed above, it was the intention of the parties that all disputes should be determined by the architect, the inclusion of a general arbitration clause constituted poor draftsmanship, and resulted in the litigation in question. If such was not the intention, the construction contract did not clearly define those disputes which were to be excluded from the architect's final and binding determination. This case reaffirms the validity of a construction contract which leaves the determination and arbitration of all matters to the architect. It is, however, illustrative of the confusion which can be engendered by a contract document that does not clearly and definitively set forth the intention of the parties.

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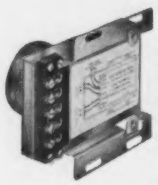
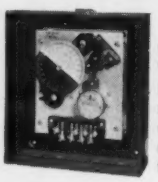


DOOR-OPERATED TIMER employs door switch (not furnished) which starts Timer as user enters toilet room. Flushing occurs within succeeding five minutes while successive door openings have no effect.



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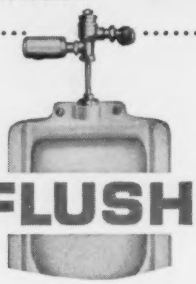

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Requirements For Wood Construction

Specifications Clinic by Harold J. Rosen

P/A Practice of Architecture *article discussing American Standards Association Report No. 2075*—Recommended Building-Code Requirements for Wood or Wood-Base Materials—*which is intended to serve as a draft for code-making bodies.*

The United States Forest Products Laboratory has prepared *Recommended Building-Code Requirements for Wood or Wood-Base Materials* (Report No. 2075, dated September, 1957), which is intended to serve as a draft of recommended requirements for wood construction by code-making bodies. This project was co-sponsored by American Standards Association which has already published building-code requirements for (1) Masonry, (2) Reinforced-Gypsum Concrete, (3) Design Fabrication and Erection of Structural Steel for Building, and others, and expects eventually to issue an American Standard Building-Code Requirements for Wood.

The American Standards in the field of building construction are widely used by Architects and Specifications Writers, and a proposed American Standard in the field of requirements for wood and wood-base materials, using the *Forest Products Laboratory Report* as a basis, would be most beneficial.

The *Report* is prepared in such a manner as to provide for the application and use of wood materials and methods of wood construction, as can be shown by structural analysis or laboratory test to meet the basic requirements; while reference to specific construction details is minimized. This approach is used so that when new materials and construction methods are developed, their use would not be penalized or retarded, if it could be demonstrated that they could render the required satisfactory service.

The requirements in the *Report* are generalized, rather than specific, and supplementary material to show how their intent may be met is used. The supplementary material consists of references to 44 publications which describe generally accepted good practice. Of the total number of publications listed, eight comprise the most important supplementary references, and these are: (1) *Wood Handbook*, issued by U. S. Dept. of Agriculture; (2) *National Design Specification for Stress-Grade Lumber*, issued by National Lumber Manufacturers Assn.; (3) *Condensation Control in Dwelling Construction*, issued by Housing and Home Finance Agency; (4) *Tables of Maximum Allowable Spans in Residential Construction*, issued by U. S. Federal Housing Administration; (5) *Wood-Frame House Construction*, issued by U. S. Department of Agriculture; (6) *Timber Design and Construction Hand-Book*, issued by Timber Engineering Co.; (7) *American Standard Safety Code for Building Construction*, issued by American Standards Assn.; and (8) *Manual on Wood Construction for Prefabricated Houses*, issued by the Housing and Home Finance Agency.

In June 1959 *The Magazine of Standards*, Lyman W. Wood, an engineer for the Forest Products Laboratory and author of the *Report* states that "The new publication is not in itself intended to be a building code, nor is it intended to replace, as such, the related subject matter in currently established codes. Its recommendations may be considered, in whole or in part, in connection with the development or revision of code requirements. It is a summary of technical information on wood construction in a form useful to code-making bodies."

The subject matter of the *Report* is grouped in 26 chapters. Chapter No. 1, entitled "Definitions," defines those terms that are necessary for interpretation of code requirements.

Chapter No. 2 covers "Materials," and is concerned with the quality, workmanship, and general specifications of all wood or wood-base materials, such as lumber, plywood, sheathing materials, construction papers, and other wood materials used in a building.

Chapter No. 3 is entitled "General Design Requirements," and governs the structural design of wood or wood-base materials in buildings including the assumption of design dead and live loadings, selection of allowable design stresses or loads, determination of required sizes of members, and choice of fastenings or connections.

Chapter No. 4 covers "Fastenings," and these include nails and spikes, screws, wood pins, bolts, timber connectors, plates and hangers, and clamps.

Chapter No. 5 is devoted to "Beams," and includes bending strength, stiffness, shear resistance, and bearing. This chapter also covers built-up beams, laminated beams, and box or I-beams.

Chapter No. 6 concerns "Columns," short, intermediate, and long, round and tapered, together with formulas for their design.

Chapter No. 7 governs "Additional Design Provisions," including design of tension members, compression, perpendicular to grain, loading at angles to grain, flexure and compression, and flexure and tension.

Chapter No. 8 covers "Light-Frame Construction," and the provisions of this chapter apply to one- or two-family dwellings or other light-frame buildings not more than three stories in height, above the basements, in which structural parts are of wood or wood frames are used for support. This includes wood-frame walls with facing or veneer of non-wood materials.

Chapter No. 9 is devoted to "Masonry Wall and Joist Construction," and is applicable to wood structural parts used with exterior walls of masonry.

Chapter No. 10, "Heavy-Frame Construction," deals with load-bearing members or structural parts in buildings of heavy-frame construction.

Chapter No. 11, entitled "Farm Buildings," is applicable to rural or farm buildings for private use.

Chapter No. 12 covers "Auxiliary Construction," and included are wood scaffolds, concrete forms, and arch centering.

Chapter No. 13 is devoted to "Decay and Insect Protection," where wood is subjected to hazard of decay or infestation by termites, beetles, or other wood borers. Provisions of this chapter include drainage of building site, moisture control, preservative treatment, and soil poisoning.

The following chapters are concerned with specific structural elements: Chapter No. 14, "Glued Laminated Structural Members"; Chapter No. 15, "Structural Sandwiches"; Chapter No. 16, "Prefabricated Panels"; Chapter No. 17, "Wood Diaphragms and Horizontal Bracing Systems"; Chapter No. 18, "Wood Trusses," Chapter No. 19, "Arches and Rigid Frames"; and Chapter No. 20, "Lamella Roofs."

Chapter No. 21, "Miscellaneous Construction," includes towers, signs, display structures, marquees, and ladders. Chapter No. 22, "Log Construction," covers the elements of log-building construction, and Chapter No. 23 governs "Pole Framing (Non-Residential)."

Chapter No. 24, "Structural Performance Testing," describes the testing of wood structural members or elements such as panels, beams, trusses, and columns.

Chapter No. 25, "Inspection of Wood Buildings," discusses inspection of wood structural parts for specie, grade, moisture and insect damage, and inspection of glued members.

Chapter No. 26 is devoted to "Maintenance and Repair," and includes repainting, reinforcement, replacement, and maintaining of wood structural elements.

A committee is still working on this report and some future revisions may be suggested; however, it is not expected that these will effect the material contained in this review.

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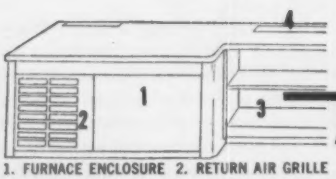

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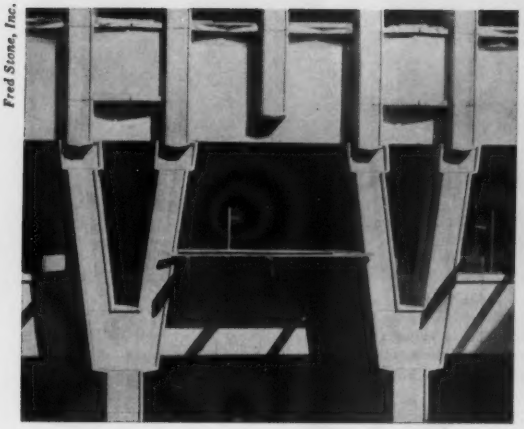

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Exterior Ducts Follow Leaf Ribs

Mechanical Engineering Critique by William J. McGuinness

P/A Practice of Architecture *column on mechanical and electrical design and equipment devoted this month to the organic synthesis of shelter, structural rigidity, and climate control in exterior building surfaces.*

Although a rapidly expanding technology occasionally begets a mechanical Frankenstein, one finds that the best examples of beauty and usefulness in man made designs often follow an instinctive conformance to principles and patterns set by nature. Architectural Historian Sibyl Moholy-Nagy has often used this test of "naturalness" in interpreting the effectiveness of historic and contemporary architecture. A leaf is her favorite example. When it is considered that the leaf combines the beauty of a shade-producing membrane and a fibrous rib-system, the similitude is good. For its life and protection, the thickened sinews of the leaf convey the necessary fluids within these structural channels.

The functional resemblance of the leaf and the exterior surfaces of a modern building is strong. The involvement and merging of the esthetic, structural, and protective requirements of these surfaces is a very familiar thing. Somewhat newer, and less familiar, is the process of sensitizing the building envelope to the rapidly-changing effects of the sun, the outside temperature, and the heat gain from people and other heat-producing sources.

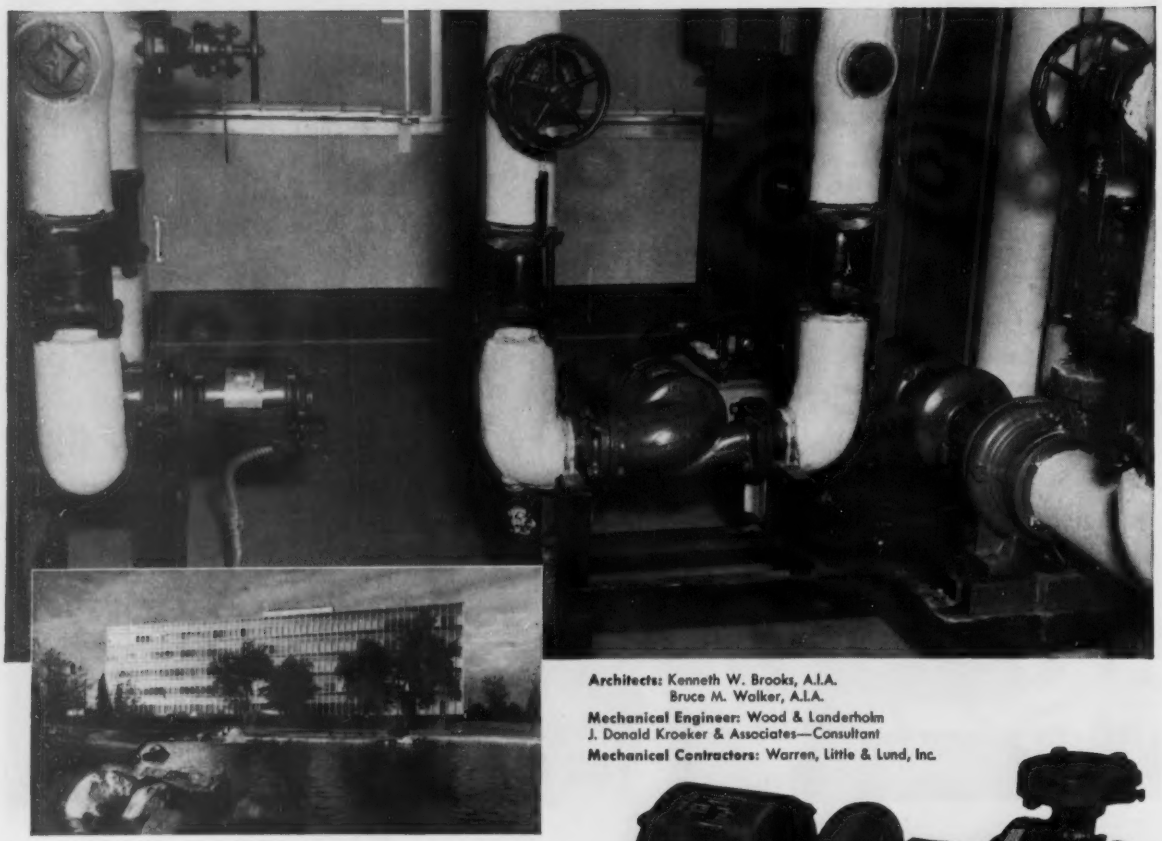
For many centuries, the design of exterior walls was adapted to the available equipment. Bulky masonry was good for surrounding a central fire. The later availability of the pot-bellied stove did not change this very much. The free-standing cast-iron steam radiator insisted on having a tall window of its own width with a sill not lower than its top level. There was no other suitable location for the window. The heating (and cooling) devices move closer to the wall, and finally merge with it to form a composite fabric. This throws an "electric blanket" around the building. For its "wires" the blanket has a network of pipes carrying heated or chilled water, or ducts carrying high-velocity warm or cool air.

The feeders for these networks may rise (or descend from a penthouse source) in the central building-core and cross under some or many structural floors to act as boosters for the exterior surface vein-system. The feeder scheme may be considered as a phase in this growth, for now it appears that the major arteries are being integrated into the exterior surfaces which they serve.

Climate control is strongly affected by orientation. So instead of a blanket *around* the building we must conceive of magic carpets hanging as plane surfaces facing the major compass points. Hanging is suggested by the frequent elimination of an enclosed first story and the expansion of penthouse facilities. Yet, these planes may be fed by arteries originating at an intermediate utility floor or at the basement.

The planes on cool shady sides supply heat to retain the indoor temperature, and directly furnish the heat that must be sacrificed to outdoors even through good insulation. Conversely on sunny sides the heat filtering through the insulation is intercepted and absorbed directly, stabilizing the temperature of the interior from which some heat must also be absorbed.

(Continued on page 13)



Washington Water Power Building, Spokane, Wash. and one of the pumping stations.

Architects: Kenneth W. Brooks, A.I.A.
Bruce M. Walker, A.I.A.
Mechanical Engineer: Wood & Landerholm
J. Donald Krooker & Associates—Consultant
Mechanical Contractors: Warren, Little & Lund, Inc.

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The heating and cooling system is a dual duct, high velocity system, with a separate zone and pumping station on each floor. Five B&G Universal pumps and 21 B&G Boosters provide the necessary circulating equipment.

The system employs the Primary and Secondary Method of Pumping developed by B&G engineers. This method materially reduces pump horsepower required and provides close temperature control, more comfort, lower operating and installation costs.

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B&G Universal and Booster Pumps are specially designed and built for systems using water for heating and cooling. They are distinguished by quiet, vibrationless operation and long failure-proof operation. They can be installed without flexible connectors or noise dampeners of any kind.

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COMPANY
Dept. GD-37, Morton Grove, Ill.
Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

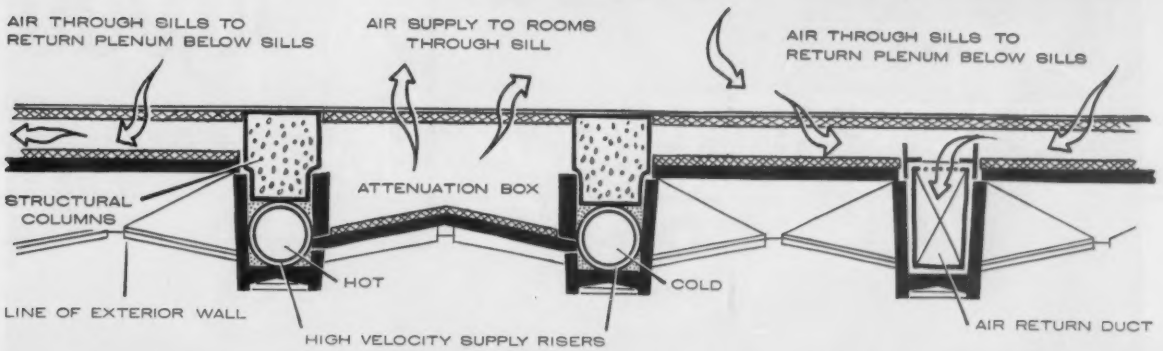
(Continued from page 11)

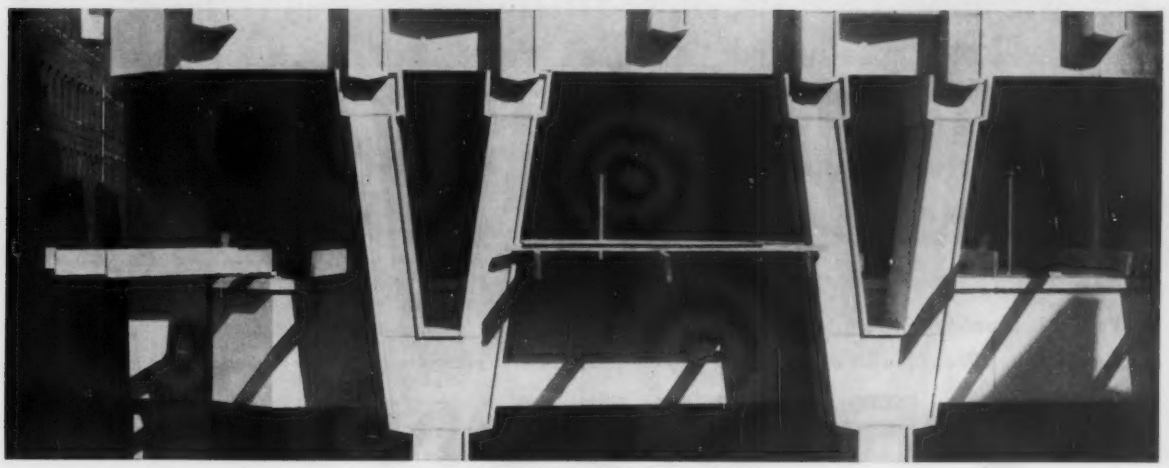
Blue Cross Blue Shield Building, Boston, Mass. Anderson, Beckwith & Haible and Paul Rudolph, Associated Architects; Stressenger, Adams, Maguire & Reidy, Mechanical and Electrical Engineers.

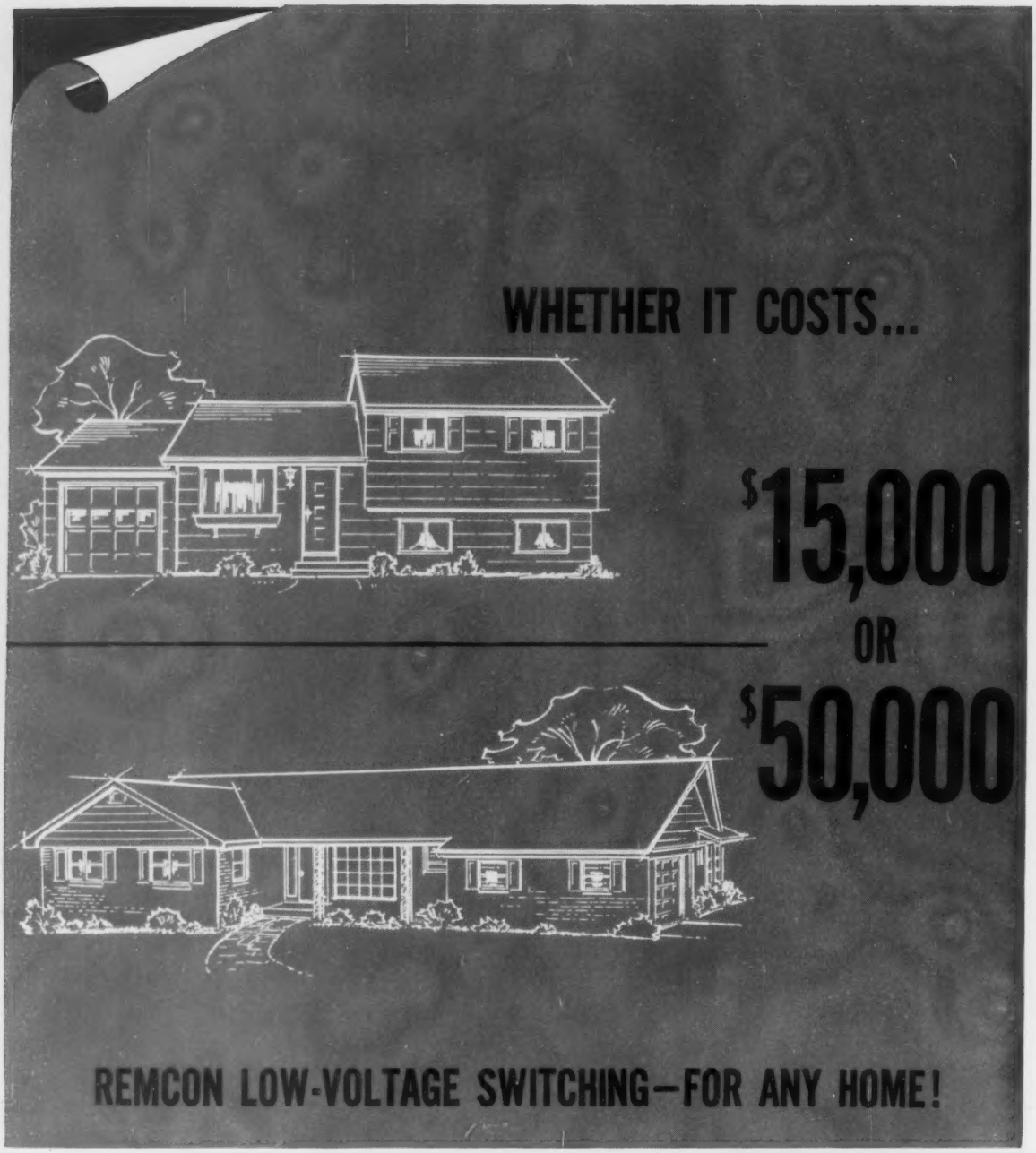
The two-story Y-shaped forms are structural columns which divide at mezzanine level and continue to rise in pairs to form the exterior skeleton frame. Hollow channels on the exterior of each pair enclose, individually, a hot-air supply duct and a cold-air supply duct. These round, high-velocity ducts join for mixing and velocity reduction in attenuation boxes, located between columns at each floor. Conditioned air is discharged upward from a window-sill grill above the box. A mullion between each pair of structural columns originates at the second-floor level and extends to the mechanical story at the roof. This mullion encloses a return-air duct which draws air through grills in the sills of the two adjacent windows on each story. Thus the air is delivered at the exterior, accomplishes its mission at that surface, and returns in the same plane to the suction side of fans on the roof.

(Continued on page 15)

Arber French & Co.







Tract or custom, it's the little touches of luxury in a house that excite a prospective homeowner! Low-voltage switching is just such a practical, appealing "extra"...and only REMCON low-voltage systems offer all these advantages:

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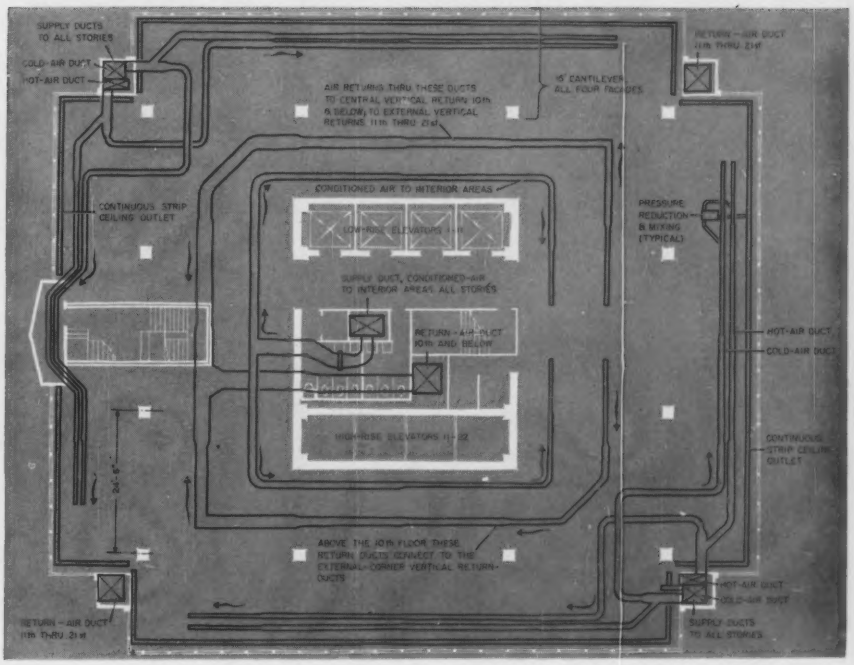
REMCON a Division of Pyramid Instrument Corp., 630 Merrick Road, Lynbrook, N. Y.

(Continued from page 13)

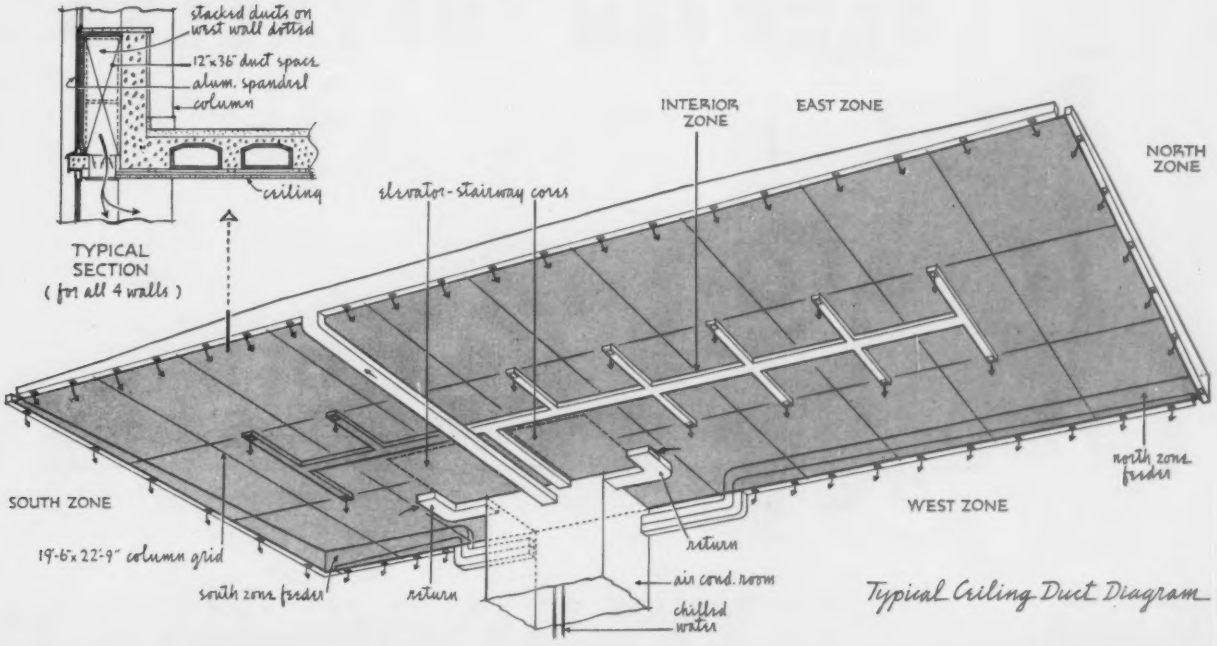
American President Lines Building, San Francisco, Calif. Anshen & Allen, Architects; Eagelson, Engineers (Charles Krieger, E.E.), Mechanical Designers.

In this ingenious scheme, the major supply arteries for conditioned air have been located in alternate corners. *In diagonally-opposite locations, supply risers are placed in large square enclosures. Though nonstructural, each enclosure is emphasized as a distinct vertical design element. Each encloses both hot- and cold-air ducts which supply two separately-controlled orientations on all of the 21 stories. Conditioned air originates at an intermediate floor, the third. In the opposite two corners, similar single ducts return much of the air to the equipment story. The balance is returned through duct risers in the core. (For a fuller discussion of this building see* MECHANICAL ENGINEERING CRITIQUE, DECEMBER 1959 P/A.)


SUPPLY DUCTS TO ALL STORIES
COLD-AIR DUCT
HOT-AIR DUCT
AIR RETURNS THRU THESE DUCTS TO CENTRAL VERTICAL RETURN 10th & BELOW, TO EXTERNAL VERTICAL RETURNS 11th THRU 21st
15' CANTILEVER ALL FOUR FACADES
RETURN-AIR DUCT 11th THRU 21st
CONDITIONED AIR TO INTERIOR AREAS
CONTINUOUS STRIP CEILING OUTLET
LOW-RISE ELEVATORS 1-10
PRESSURE REDUCTION & MIXING (TYPICAL)
SUPPLY DUCT, CONDITIONED-AIR TO INTERIOR AREAS ALL STORIES
RETURN-AIR DUCT 10th AND BELOW
HIGH-RISE ELEVATORS 11-22
HOT-AIR DUCT
COLD-AIR DUCT
CONTINUOUS STRIP CEILING OUTLET
ABOVE THE 10th FLOOR THESE RETURN DUCTS CONNECT TO THE EXTERNAL-CORNER VERTICAL RETURN-DUCTS
RETURN-AIR DUCT 11th THRU 21st
SUPPLY DUCTS TO ALL STORIES

Luz Electrica Building, Caracas, Venezuela. Lathrop Douglass, Architect; Sidney Barbanel, Mechanical Engineer.

The classic four-zone perimeter distribution of conditioned air is achieved in this building by ducts entirely outside the structural spandrels and above the structural soffit at each floor. In a space between the upturned spandrel beam and an exterior skin of insulated aluminum, the ducts distribute air laterally. The windows are blanketed by a down-flow from grills that are flush with the ceiling. By a careful choice of a location for the air-handling room on each floor, only the eastern zone required a supply duct that crossed from the core to the spandrel laterals. In this way an uncluttered ceiling was assured. (For a fuller discussion of this building see MECHANICAL ENGINEERING CRITIQUE, FEBRUARY 1956 P/A.)



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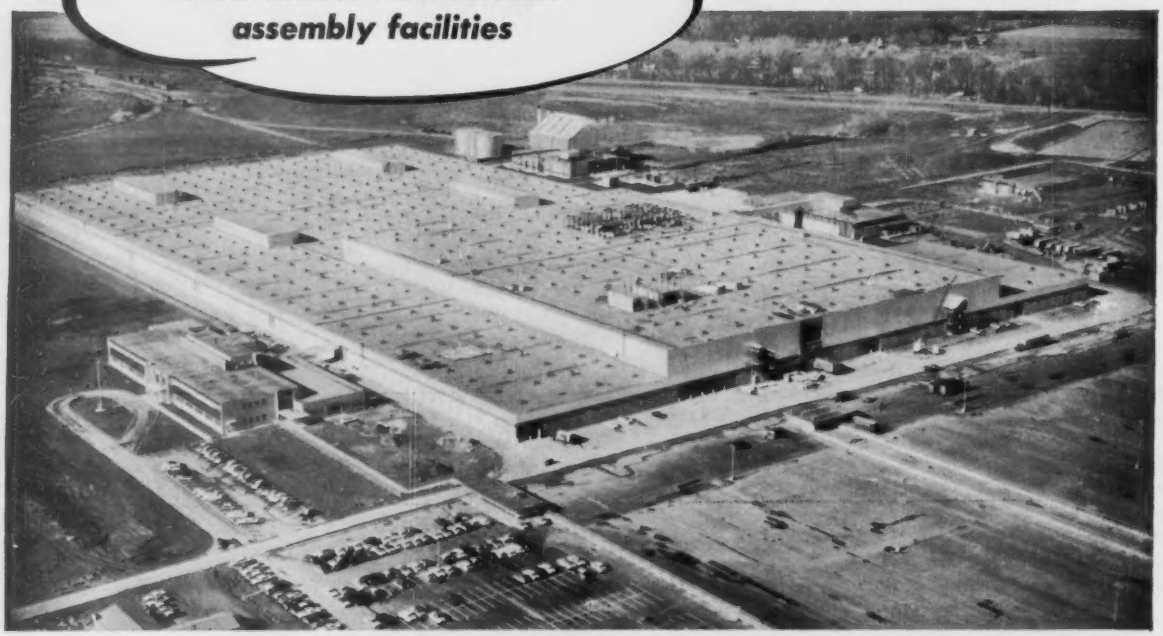

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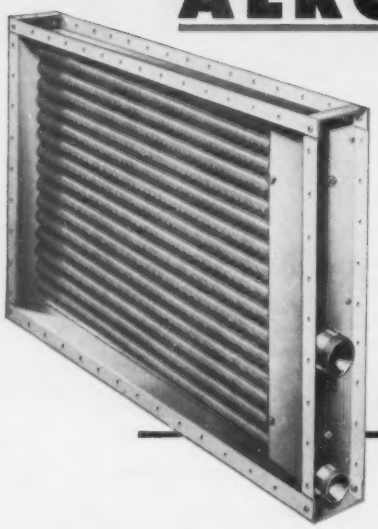

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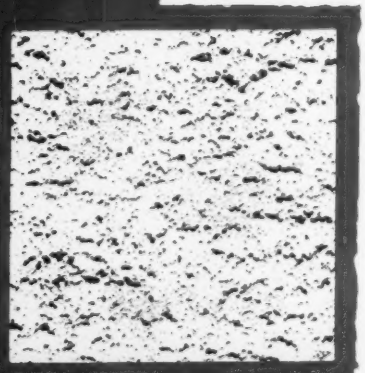
ENGINEERING OFFICES IN PRINCIPAL CITIES

6 pages of acoustical imagination

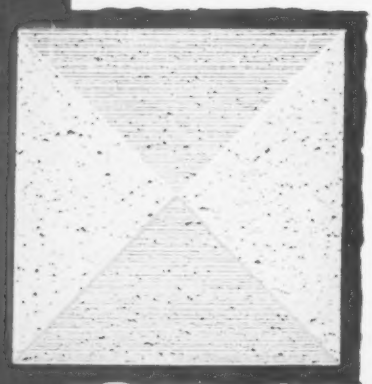
We offer this insert as a handy reference to the wide range of acoustical products and designs manufactured by the National Gypsum Company. They're arranged in four major design groups: Fissured, Sculptured, Perforated and Textured. Tear this out for handy reference.



FISSURED Travacoustic: favorite pattern for both beauty and function

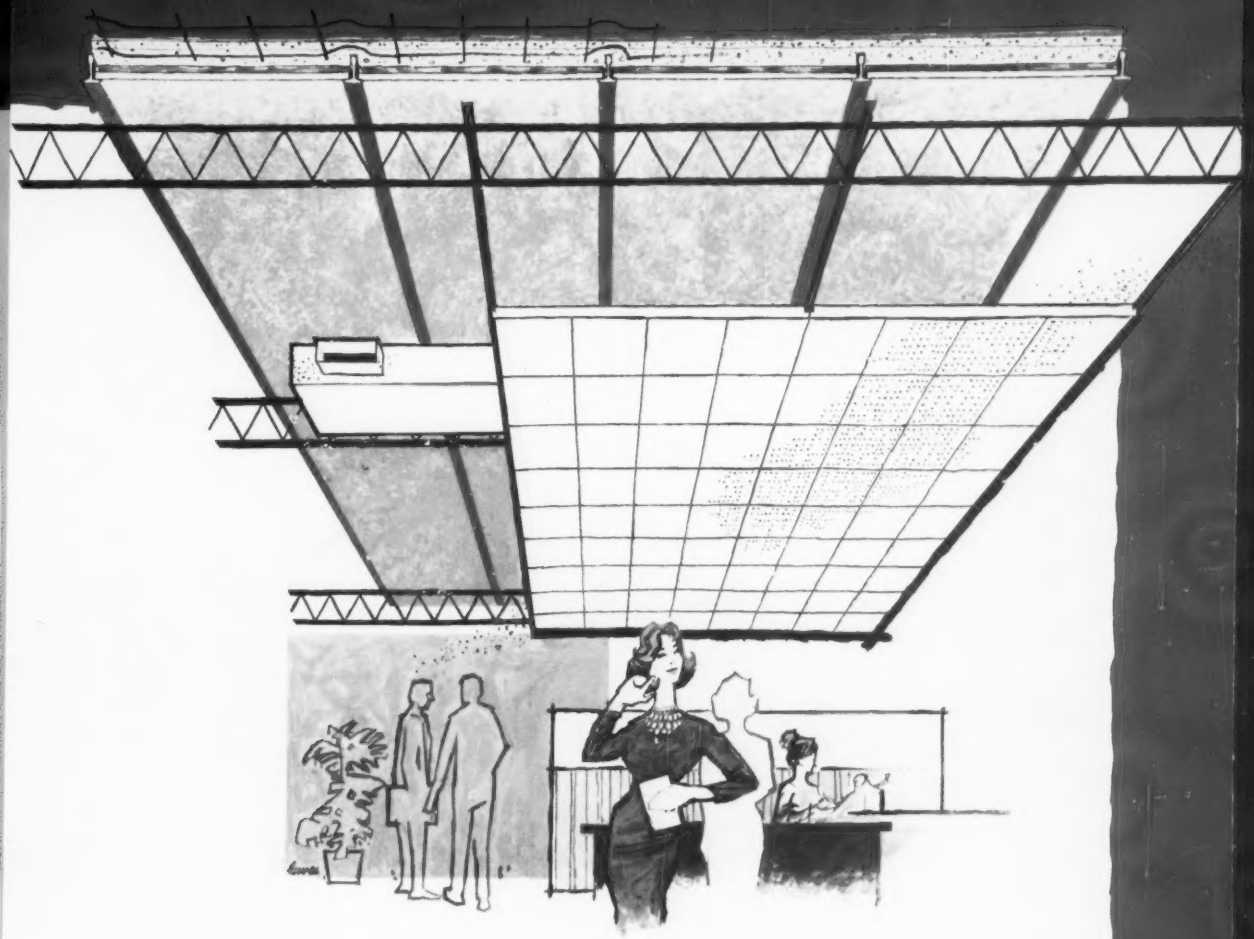
Fissured tile has long been preferred by architects and their clients as a practical tile with a beautiful surface. The *truly random* fissuring of Travacoustic is a faithful reproduction of the surface of travertine stone — a classic beauty that enhances *any* interior decor, be it traditional or modern. Because this beautiful ceiling surface is made with an efficient and permanent mineral wool tile, Travacoustic can be found in many buildings of lasting architectural significance.

Fire rating: Class A NRC Range: .65—.85 Light reflectance: 83%



SCULPTURED Travacoustic for outstanding beauty of design

You can literally design your own ceiling surface with this tile. Its three-dimensional surface makes strikingly handsome "pattern" ceilings for use in reception rooms, executive offices and other places where an extra touch of decoration is important. Sculptured Travacoustic comes in three tile patterns: Prism (above), French Curve and Labyrinth — all of them true acoustical products with good noise reduction and light reflection qualities. For an *extra* sculptured effect, use indirect or floor lighting.



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All manner of acoustical ceiling systems are available, making use of Gold Bond's wide variety of acoustical materials and broad design experience in the acoustical field. The system shown above combines an acoustical formboard with perforated Acoustimetal pans to eliminate the need for expensive air outlets and reduce the number of elements needed in the ceiling.

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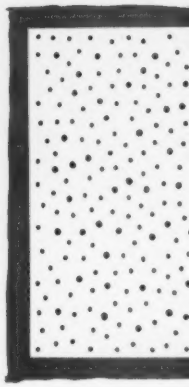

3 PERFORATED Patterns in 4 materials

Look for the neat, business-like aspect of Straight Line Perforations, the less form
Linear Random, or the casual informality of Full Random Perforations, and you'll fi
them in a Gold Bond Acoustical Product. Perhaps several. *Acoustimetal:* perforated met
unit with sound-absorbent pad. Strong, compact, noncombustible, almost maintenanc
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finish" or flame-resistant white paint. Straight Line or Linear Random pattern. Econom

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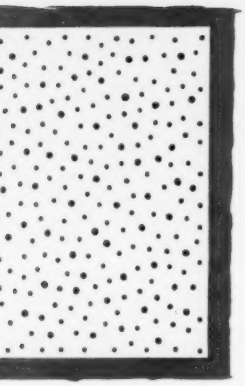

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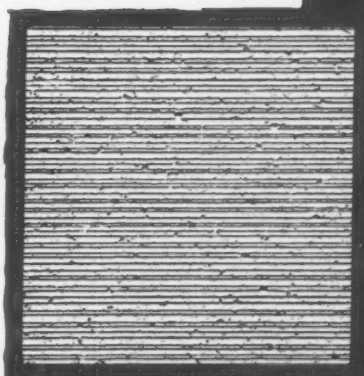
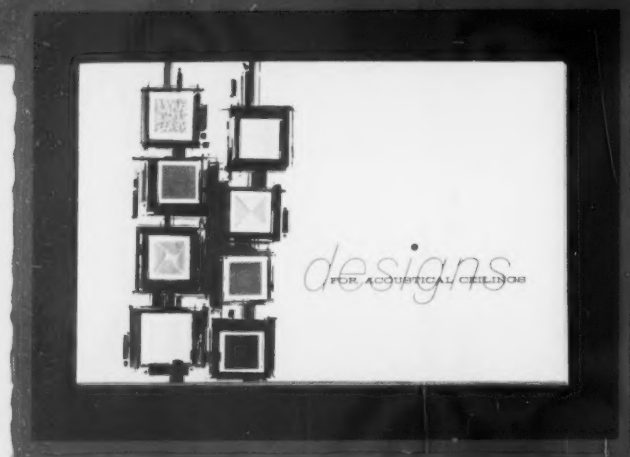
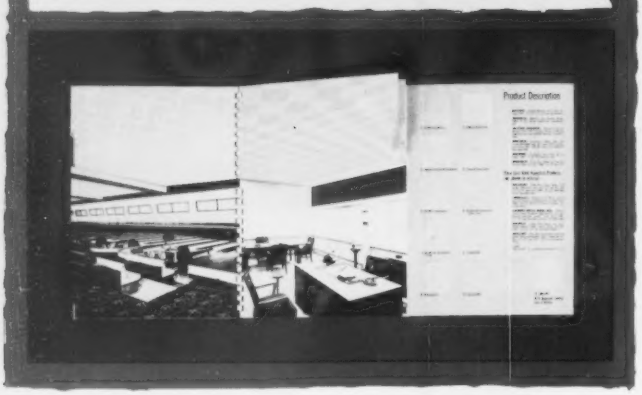


combustible acoustical products look to . . .

Gold Bond
BUILDING PRODUCTS





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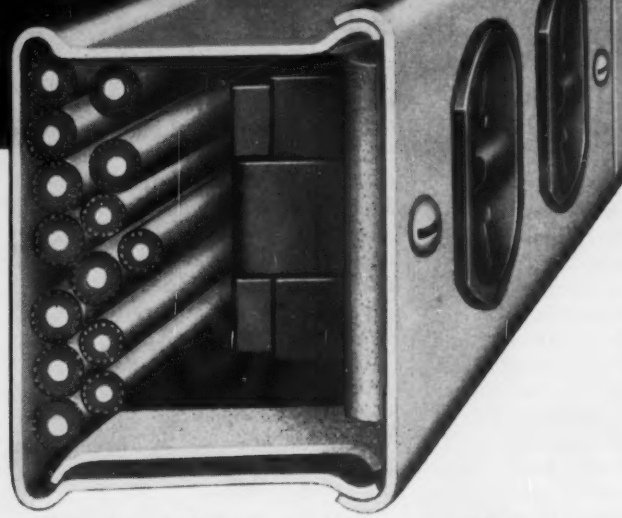

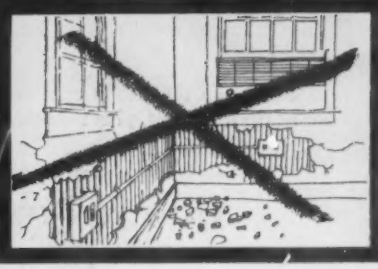

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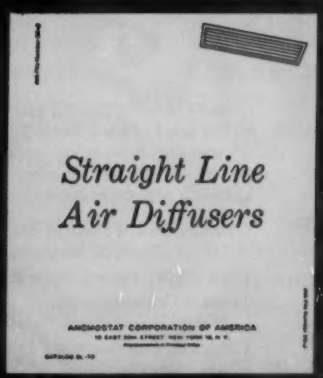

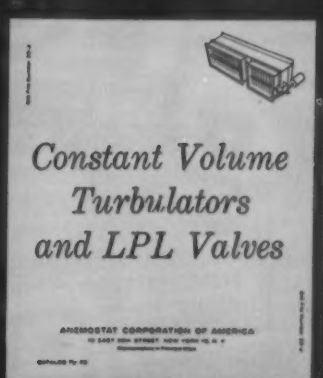

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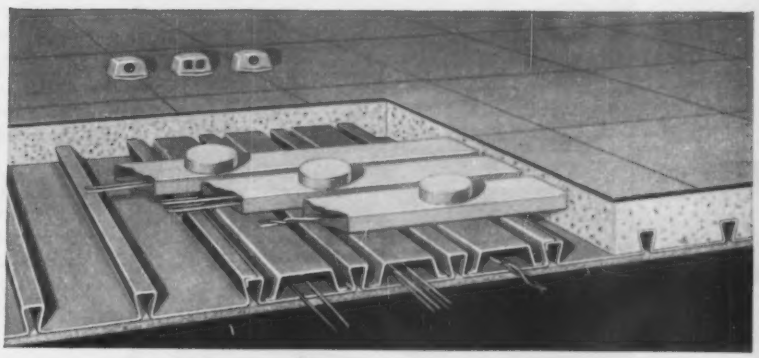

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4. Acoustical Efficiency
5. Attractive Appearance
6. Structural Simplicity

Proved the BEST BUY for MADISON HIGH SCHOOL!

The installation of the Burgess-Manning Radiant Heating and Acoustical Ceiling at Madison High School, New Jersey, provides a dramatic demonstration of the "Six Points of Superiority" that distinguish this highly efficient comfort conditioning system.

Because it utilizes radiant energy from the ceiling that is converted into heat only when it strikes a solid object, there are no convection currents in the air.

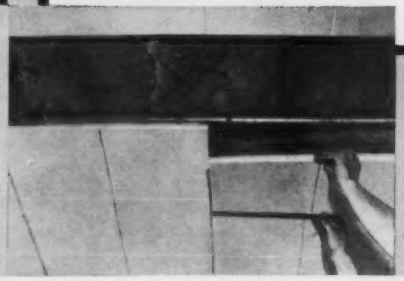
The results, according to Supt. David S. McLean, is a "pleasant and uniform type of heat which warms the room without objectionable drafts or cold spots."

"The absence of conventional under window heating units," reports Architect Frank E. Johnson, who, with Lawrence Licht of Englewood, N. J., designed the school, "opens up the classrooms and has at last liberated the school designer to make more effective and intelligent use of precious space."

For complete, fully descriptive information about this unique and high efficient comfort conditioning system and its many advantages, write for a copy of "The Story of the Burgess-Manning Ceiling."

Modern building of the Madison High School, Madison, New Jersey.

Laboratory class room, representative of all class rooms of Madison High School. Burgess-Manning Ceiling eliminates all floor and wall convectors—100% floor space usable.



Aluminum panels of Burgess-Manning Heating, Cooling and Acoustical Ceiling, removed to show hot water coil and acoustic blanket.

Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division

731 East Park Ave., Libertyville, Illinois

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You, too, will find "Utility" grade is a money-maker for One and Two Living Unit-construction. And you will have the plus-value of the consistent quality of West Coast lumber.

* *When used in accordance with FHA Minimum Property Standards for One and Two Living Units, FHA Bulletin No. 300.*

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RAFTERS FOR LIGHT ROOFING (Roof slope over 3 in 12) (Weighing less than 4 lbs. per sq. ft. in place)

Douglas Fir Size	Spacing	West Coast Hemlock Maximum Span
2x6	16" o.c.	9'-8"
2x8	16" o.c.	14'-4"
2x10	16" o.c.	19'-8"

FLAT ROOF JOISTS supporting finished ceiling (Roof slope 3 in 12 or less)

2x6	16" o.c.	7'-8"
2x8	16" o.c.	11'-6"
2x10	16" o.c.	15'-8"
2x12	16" o.c.	18'-2"

CEILING JOISTS (no attic storage)

2x6	16" o.c.	11'-8"
2x8	16" o.c.	17'-6"

FLOOR JOISTS

		30 lb. live load*	40 lb. live load†
2x6	16" o.c.	7'-2"	6'-4"
2x8	16" o.c.	10'-8"	9'-6"
2x10	16" o.c.	14'-8"	13'-0"
2x12	16" o.c.	17'-0"	15'-4"

*sleeping rooms only
†other than sleeping rooms

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How the ARI Seal of Certification Program works:

To be granted this Seal by the Air-Conditioning and Refrigeration Institute, a manufacturer must rate his equipment in standard Btu's per hour instead of less accurate and confusing "tons," "horsepower" and "cubic feet." His unitary equipment is subject to random selection from stock for intensive checking and verification in an independent testing laboratory under adverse conditions, with emphasis on wilting heat and high humidity. Any model which fails to deliver rated capacity under this severe testing must be brought up to standard or be withdrawn from sale.

When you specify Unitary Air-Conditioning Equipment:

Look for the ARI Seal of Certification—your assurance of uniform high standards of safety and performance. Send for the latest ARI Directory, which lists all unitary air conditioners certified under this program. It will aid you in specifying. There is no charge. Write to: Chief Engineer, Dept. P-401, Air-Conditioning and Refrigeration Institute, 1346 Connecticut Ave., N. W., Washington, D.C.

Manufacturers participating in the program: • Airtemp Division, Chrysler Corporation • Amana Refrigeration, Incorporated • American Furnace Company • American-Standard Industrial Division American Radiator and Standard Sanitary Corporation • Arkla Air Conditioning Corporation • Armstrong Furnace Company, Division of National Union Electric Corporation • Bryant Manufacturing Company • Carrier Corporation • Cleveland Steel Products Corporation • Cobell Industries Incorporated • Continental Manufacturing Company • Coolerator Division, McGraw-Edison Company • Curtis Manufacturing Company • Day and Night Manufacturing Company • Florida Warren Corporation • Fraser and Johnston Company • Friedrich Refrigerators, Inc. • Gaffers & Sattler, Division of Utility Appliance Corporation • General Electric Company • Goettl Bros. Metal Products Inc. • Holly-General Company • International Heater Company • Janitrol Heating and Air Conditioning, A Division of Midland-Ross Corporation • Laurel Products Corporation • Lennox Industries Inc. • Lincoln Air Control Products, Inc. • The Mathes Company, Division of Glen Alden Corporation • Miami Products, Inc. • Mission Appliance Corporation • Mueller Climatrol, Division of Worthington Corporation • National Thermatic Corporation • National-U. S. Radiator Corporation • The Payne Company • Peerless Corporation • Perfection Industries, Division of Hupp Corporation • Rheem Manufacturing Company • Round Oak Company of Indiana, Incorporated • Southwest Manufacturing Company • Therm-Air Manufacturing Company • The Trane Company • Typhoon Air Conditioning Company, Division of Hupp Corporation • United States Air Conditioning Corporation • Westinghouse Electric Corporation • Williams Oil-O-Matic Heating Company, Division of National Union Electric Company • Worthington Corporation • York Corporation, Subsidiary of Borg-Warner Corporation

*"Unitary" air conditioners included in this program: all packaged air conditioners, whether single units or two-piece units (called "split" systems) up to 135,000 Btu's per hour in capacity, but not including room air conditioners. ARI Standard 210-58 for electrically-driven equipment; ARI Standard 250-58 for heat-powered equipment.

Now you can be sure that specified unitary air-conditioning equipment will deliver rated performance, and continue to deliver ample capacity under adverse conditions.

Great new things are shaping up in concrete block

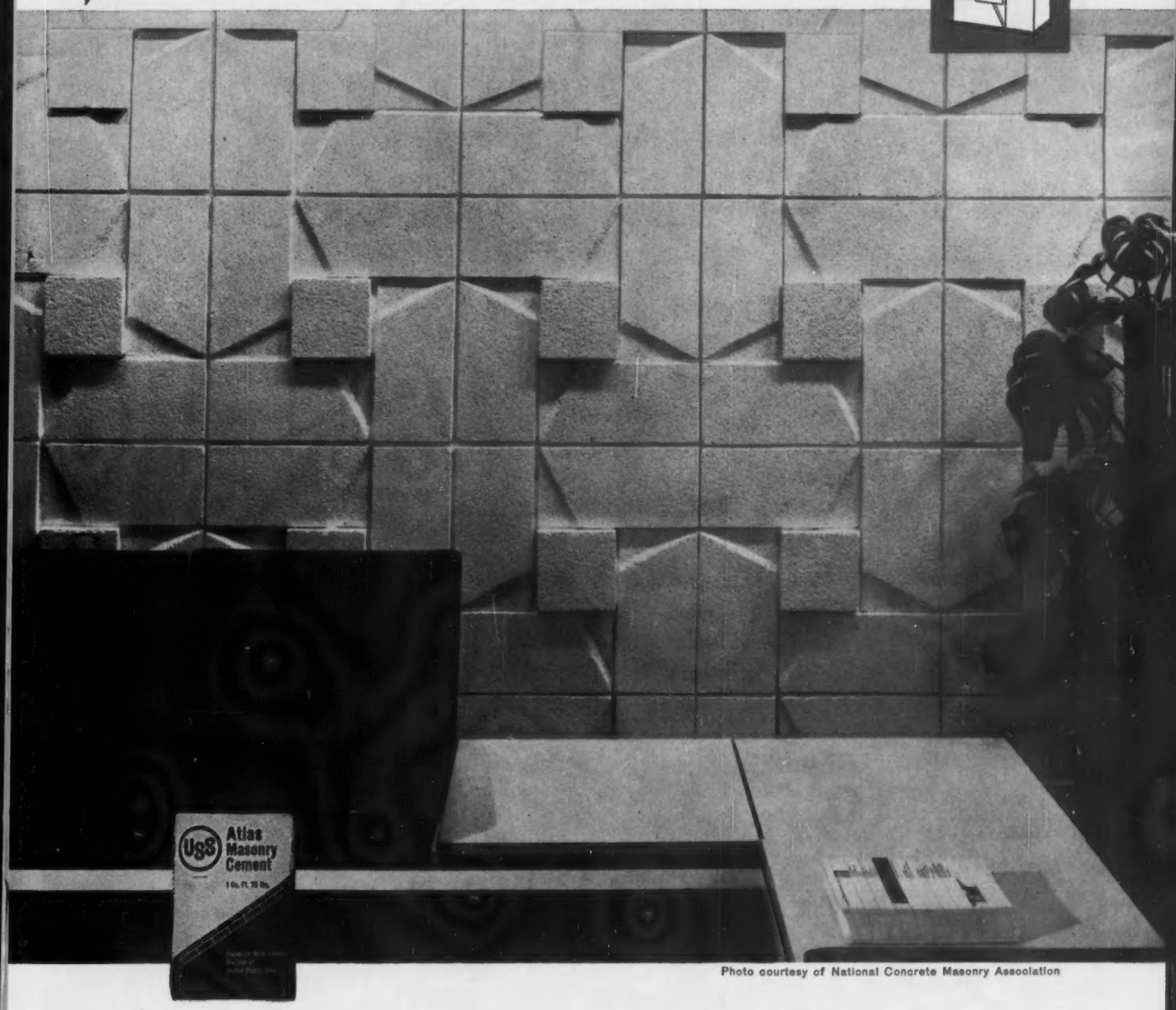

Photo courtesy of National Concrete Masonry Association

Atlas Masonry Cement provides the right mortar

"Shadowal" concrete block has often been described as "the block with a thousand faces." Used here in combination with square blocks by Architect Mario J. Ciampi, San Francisco, this unit has created a striking and distinctive example of the role concrete block plays in today's building plans. And to lay up the new concrete masonry units, Atlas Masonry Cement continues to be the preferred cementing material for mortar. It helps produce a smooth, workable mortar . . . assures a stronger bond . . . gives weatherproof joints that are uniform in color. And Atlas Masonry Cement complies with ASTM and Federal Specifications. For information write: Universal Atlas Cement, Dept. M, 100 Park Avenue, New York 17, N. Y.

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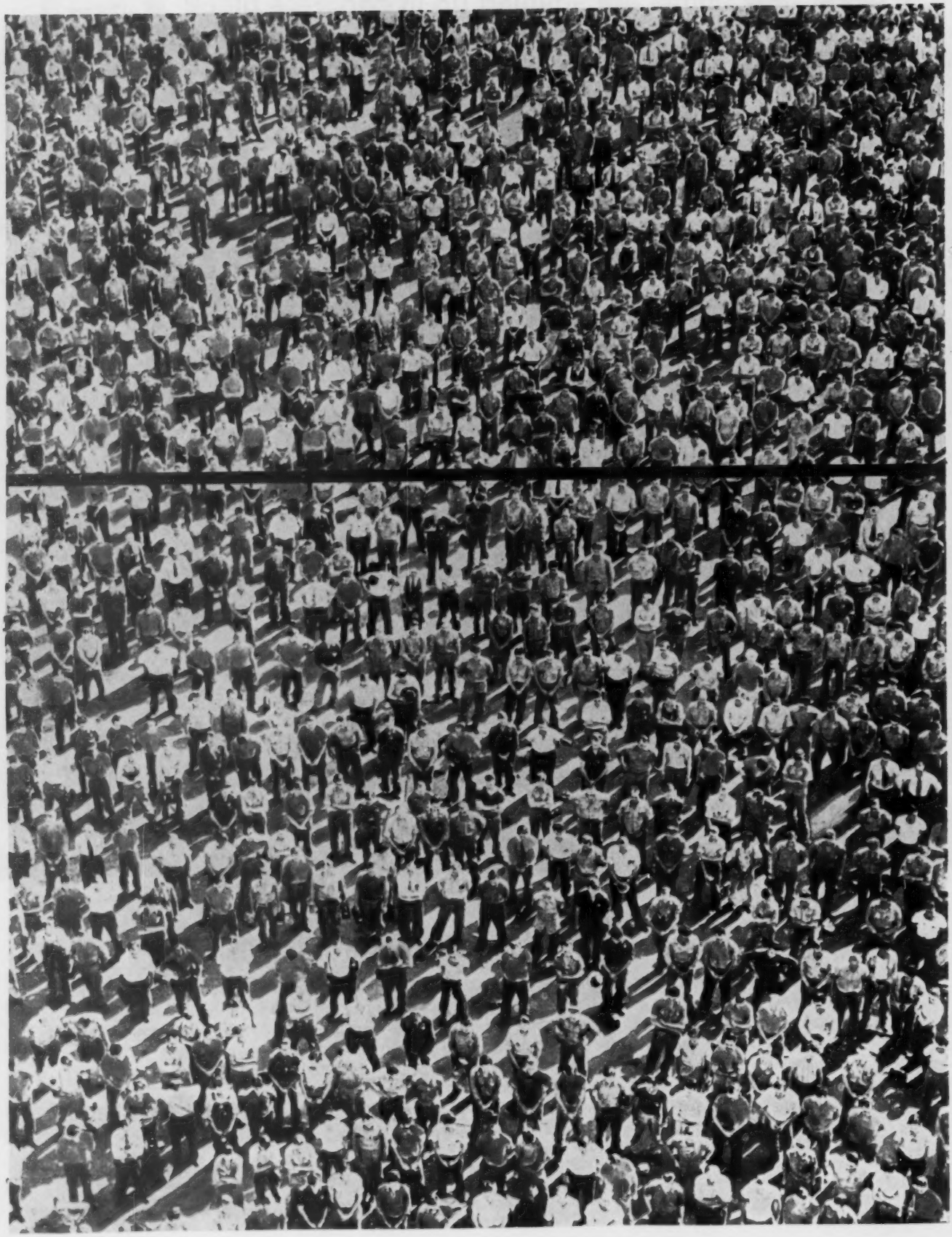

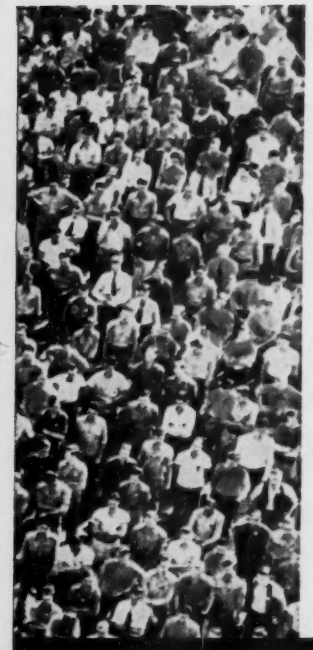

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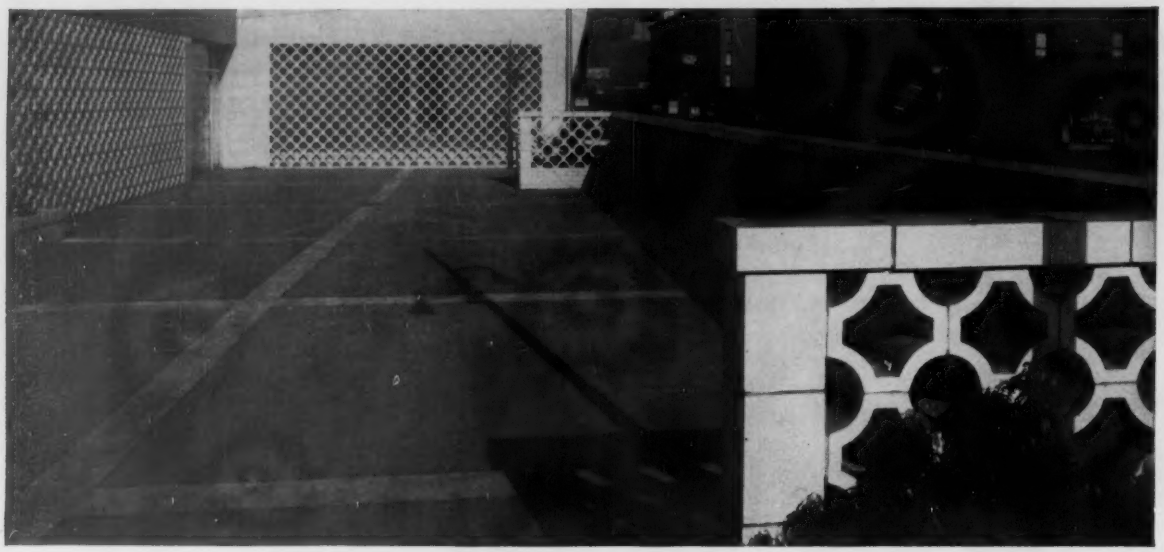
Grilles, coping and facing of Ceramic Veneer are a frosty white. Due to their ceramic-glazed finish, normal rainfall will keep them clean and colorful.

With Ceramic Veneer grilles



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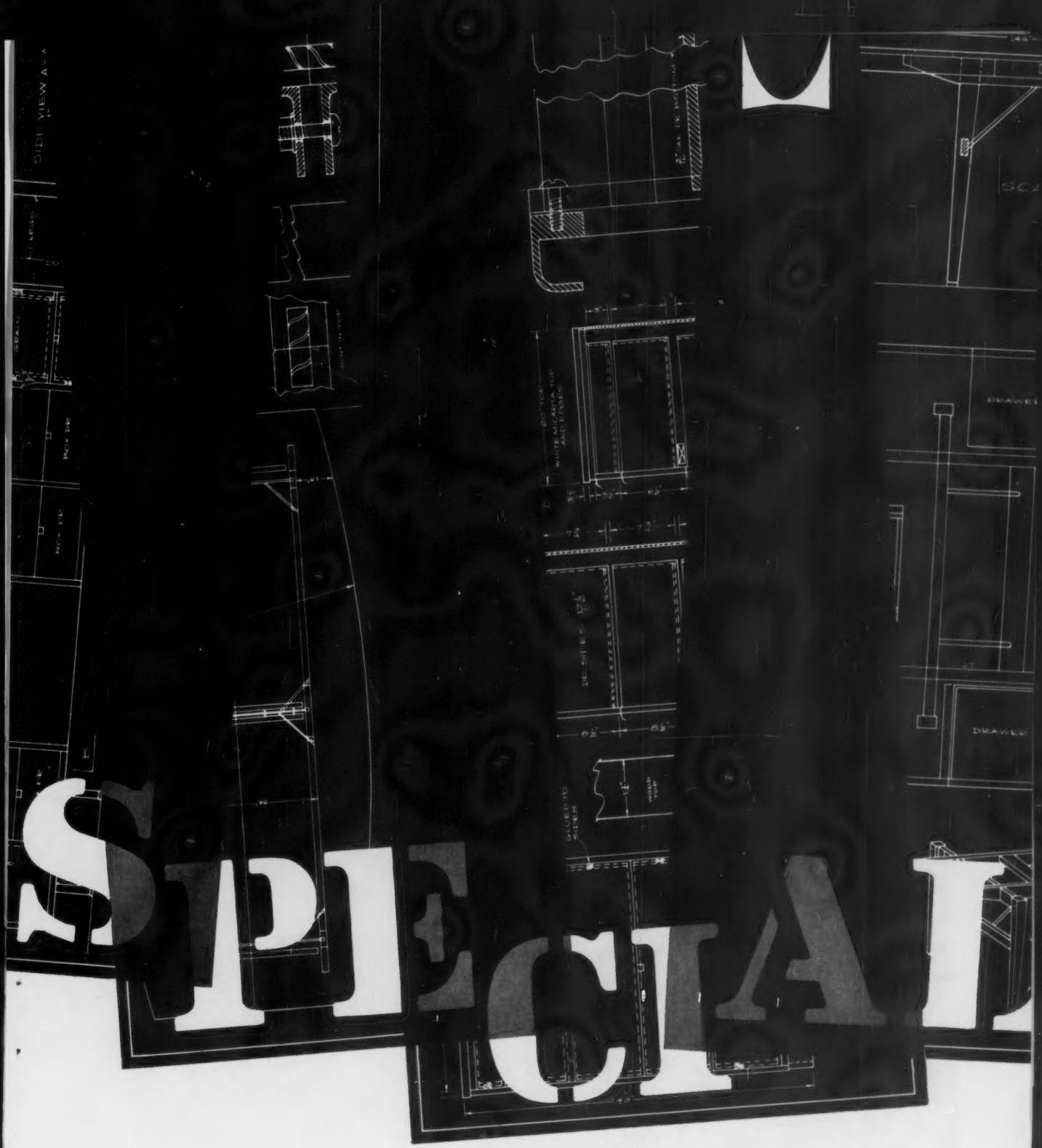

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Concrete Hyperbolic Parabaloid Roof

Partially completed fireproof shopping center. Each of the 44 umbrella units is 48′6″ x 46′3″ and is supported by a single column. The completed building is 196′ x 511′.

Provides Large Unobstructed Floor Areas

At Bloomington, Minnesota, this new shopping center has been completed employing a very modern concrete hyperbolic parabaloid roof design—the first of its kind in the Minneapolis area. This type of roof design for single story structures provides large unobstructed floor areas at low cost.

Contractor planning on the job was precise. Careful scheduling and the use of Lehigh Early Strength Cement made it possible to strip and re-use the unique concrete form system in less than half the time which would have been required with regular cement. Only four sets of forms were needed. Eight units—or bays—were poured per week.

This is another example of the advantages of Lehigh Early Strength Cement and modern concrete construction. Lehigh Portland Cement Company, Allentown, Pa.

LEHIGH CEMENTS

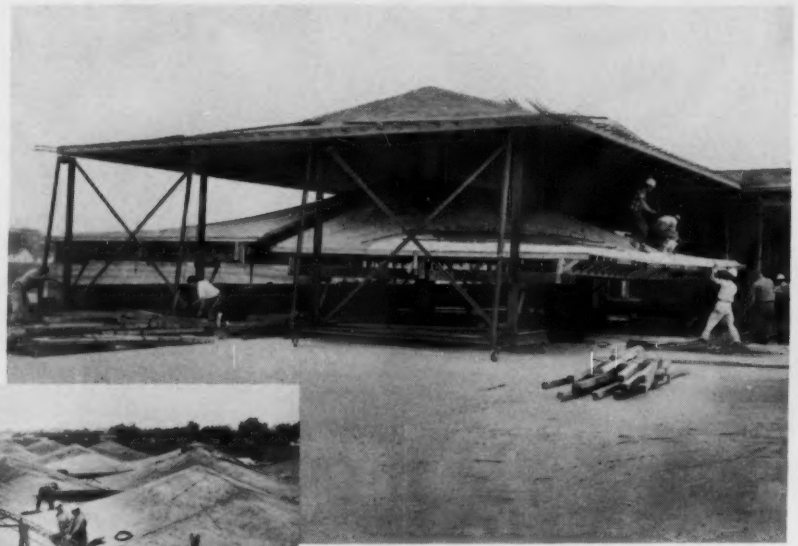
Owner: Bloomington Development Co., Bloomington, Minn.

Architects: Manuel Morris & Robert E. Sixta Assoc., Kansas City, Mo.

Structural Engr.: Dutton Biggs, Kansas City, Mo.

Contractor: George Madsen Construction Co., Minneapolis, Minn.

Ready Mix Concrete: Twin City Ready Mix Concrete Co., Minneapolis, Minn.



As set of forms is lowered, workmen place supplies of reinforcing on it. Form serves as elevator to carry bars to roof for assembly. Each half of the form weighs 4 tons. Four sets of forms were used cyclically for an efficient construction schedule.

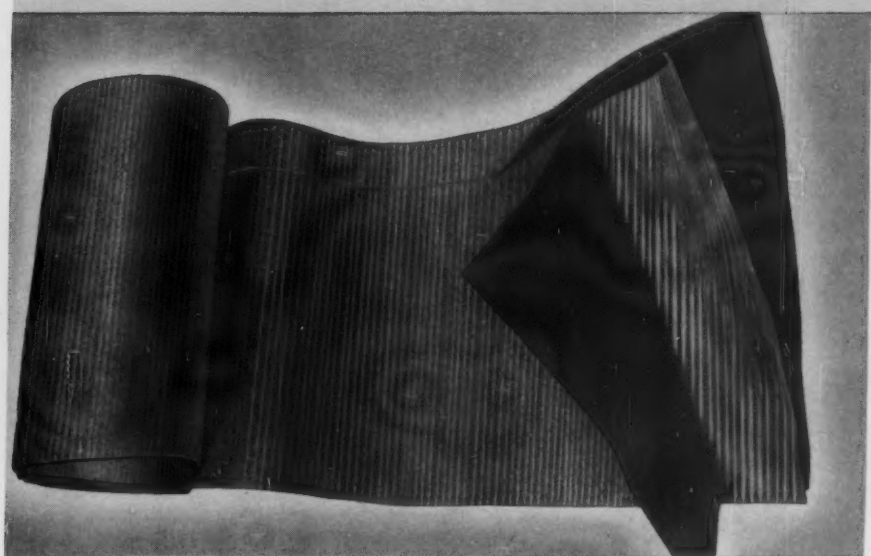
Other workmen prepare reinforcing for more roof sections on top of completed concrete "dunes." Concrete shell is 3″ thick.

Madonna Hall
D'Youville College
Buffalo, New York
Foit & Bashnagel,
Architects
Bradley & Sons, Roofers

The beauty of this million-dollar building, inside and out, has been lifetime insured by the finest flashing available. And yet, the cost of continuous spandrel flashing at all floor levels, including window heads and sills, was only 1.2% of the total construction cost . . . a modest investment for complete and lasting protection against the elements.

ONLY 1.2% OF TOTAL COST...

FLASHING BY WASCO



The flashing in Madonna Hall is Wasco five-layer Copper-Fabric, the most versatile flashing ever perfected. Copper-Fabric is ideal for every architectural application . . . it is rugged and flexible; unaffected by heat and cold; positively will not stain or bleed. To be sure that your buildings have maximum beauty insurance, specify Wasco Copper-Fabric Flashing. Why risk a substitute? For complete details and specifications, see Sweet's Architectural File 8g/Wa.

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For every building . . . commercial, industrial, residential!

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Easier to install than non-flexible vinyl . . . can be "cold-cut" with no heating needed.

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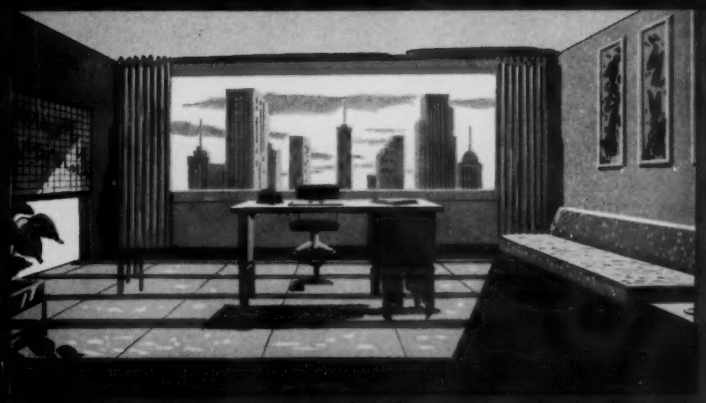

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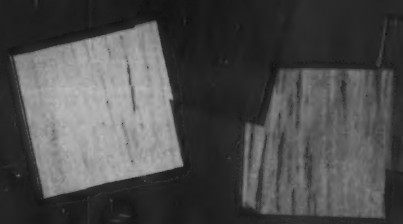

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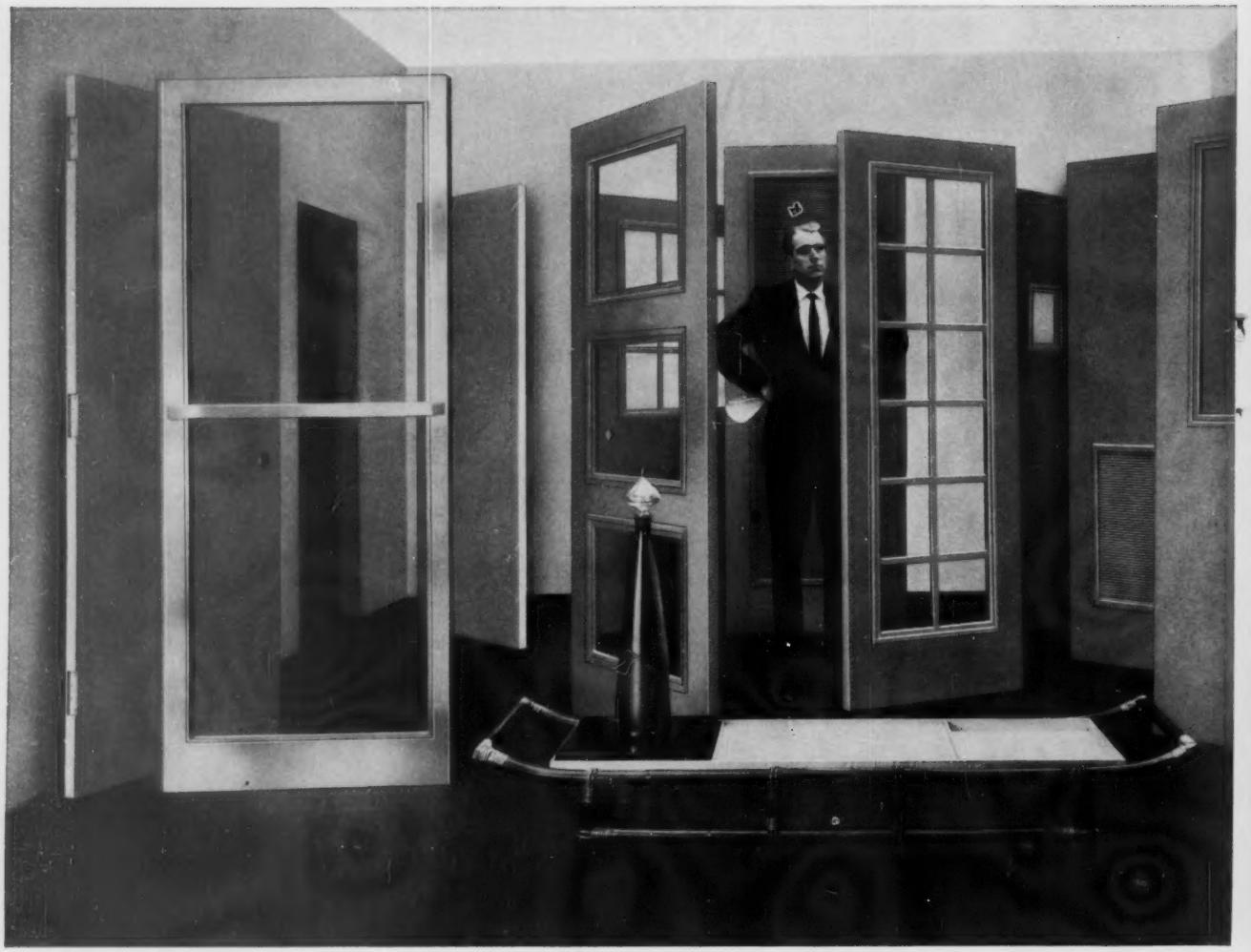
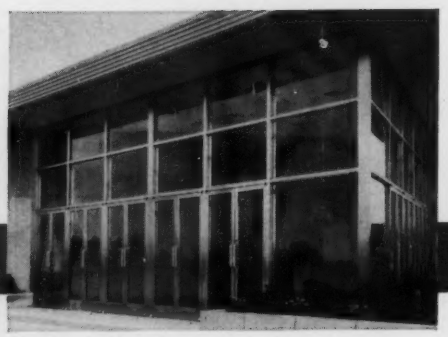


Overly Church Spires

Overly U/L Labeled Fire Barriers



Overly Stainless Steel Entrances

More design freedom with Overly Doors

Overly hollow metal doors and frames are crafted to complement any division of space, providing attractive and functional entrances and doorways. The architect has a choice of over 90 basic door styles, designed for every type of location and tailored to suit the installation.* Each door design is available in steel, stainless steel, bronze, aluminum or other metals, with prime, baked enamel, laminated fabric and hand-grained wood finishes. For every special installation, Overly custom doors are crafted to meet the most exacting architectural specifications.

The architect also has a complete line of Overly labeled doors for his selection. These doors have been tested by Underwriters' Laboratories, and in many instances, their performance records were in excess of the U/L standards. And the Overly Fire Barrier, only U/L tested and labeled Fire Barrier available today, is designed to protect corridors and stairwells in schools, institutions and public buildings.

Other Overly architectural products include Overline Stainless Steel Entrances, Overly Tilt-A-Front installations, Overly Goodwin batten-type roofs to match any shape or form, and Overly Church Spires rendered tastefully in modern or Gothic. Each of these products, and the new products to follow, will be subjected to the same sensitive scrutiny and exhaustive testing that have been part of Overly craftsmanship in the past. For your architectural metal needs, why not contact Overly?

**No other manufacturer catalogs so many different door designs. Among the recent installations using Overly doors are the Libbey-Owens-Ford Building, Toledo, Ohio; the H. K. Porter Building, Pittsburgh, Pa.; the Beverly-Hilton Hotel, Los Angeles, Calif.; the Kroger Building, Cincinnati, O.; the John J. Kane Hospital, Pittsburgh, Pa.; and the First National Bank Building, Fort Worth, Texas.*

Overly Goodwin Pre-fabricated Roofs

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How to choose an acoustical ceiling to help prevent room-to-room sound-transmission problems

Selecting the right acoustical ceiling now made easier with results of new AMA standard tests

OBJECTIONABLE sound transmission from room to room is a relatively new problem. It has grown out of the development of lighter weight construction materials and the need for more flexible interior planning. "Massive construction" formerly helped solve any problems before they arose. But now privacy from unwanted sound must be *planned* on the drawing boards.

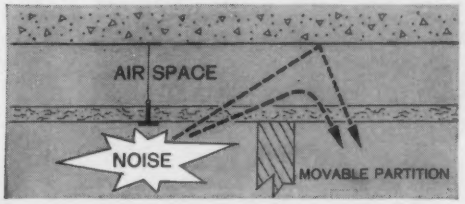
Acoustical ceilings are important factors in this planning. For example, where movable, ceiling-height partitions are to be used, the selection of the right acoustical ceiling material is the only practical and economical way to prevent sound transmission over the partitions. The diagrams on the opposite page explain why.

Which acoustical material is the "right" one? That depends on the layout of the interior, the effectiveness of the partitions themselves, the use to which the interior will be put, and cost. In all cases, the resistance of the ceiling material to sound transmission will be a vital consideration.

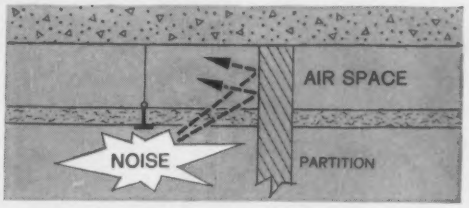
To eliminate the confusion caused by many "independent" tests, the Acoustical Materials Association (whose members include nearly every major manufacturer of acoustical ceilings) recently adopted a standard procedure for measuring the room-to-room attenuation factors of suspended acoustical ceilings. AMA tests have been performed on nearly every acoustical ceiling material. The results of the tests of Armstrong acoustical ceilings (as measured by Geiger & Hamme, Consultants in Acoustics) are shown in the table on the opposite page.

Tear out that page. Before you specify another acoustical ceiling for use above ceiling-height partitions, compare these test results with the AMA test results of any other materials under consideration. And, for a more comprehensive discussion of this whole problem, ask your Armstrong representative or your Armstrong acoustical contractor to show you the new color film, "Understanding Sound Transmission."

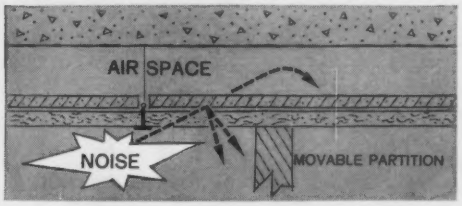
Three ways to prevent sound-transmission problems



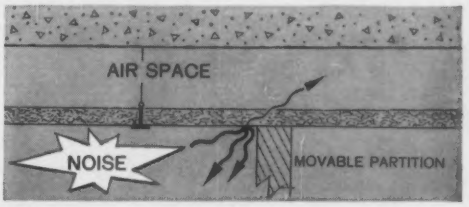
PROBLEM: With movable, ceiling-height partitions, serious sound-transmission problems can be created.



1. Extending the partitions upward to the floor slab destroys the partition's chief advantage—mobility.



2. Placing a layer of high-density gypsum board above the material is effective—but expensive.



3. Best solution is to select an acoustical material with good sound-transmission loss properties.

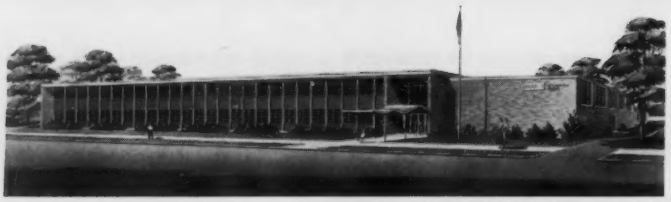
Room-to-room attenuation factors (in decibels)—Armstrong Acoustical Ceilings

Frequency (in cycles per second)	Acoustical Fire Guard (12"x12"x⅝") A-7 FT*	Acoustical Fire Guard (12"x12"x¾") A-8 FT*	Cushiontone (12"x12"x¾") A-6 FT*	Minaboard (24"x48"x⅝") A-4 FT*	Travertone (12"x12"x¾") A-9 FT*
125	31	27	29	24	29
177	32	34	27	31	31
250	29	29	29	28	25
354	33	34	35	31	26
500	36	39	40	35	28
707	39	44	45	37	29
1,000	44	50	50	43	32
1,414	51	58	56	50	37
2,000	57	57	56	54	42
2,828	60	59	58	57	50
4,000	59	54	49	56	55
Average attenuation factor	42.8	44.0	43.2	40.4	35.0

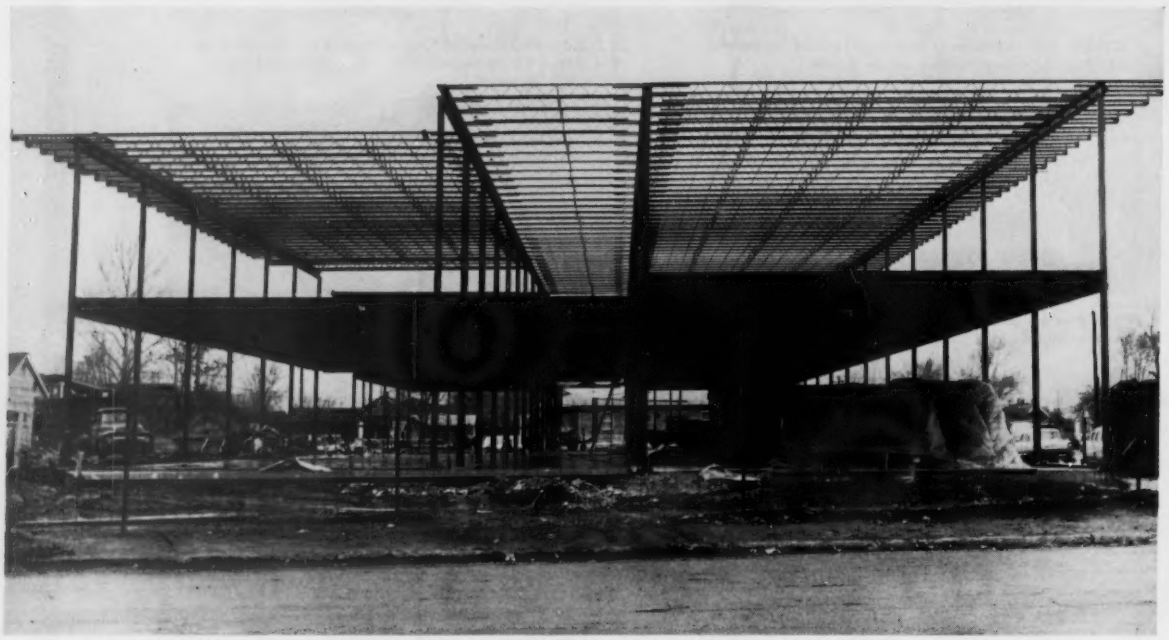
* Geiger & Hamme Test Number

Armstrong ACOUSTICAL CEILINGS

1860-1960 Beginning our second century of progress



Architect: Virgil H. Dulgeroff
General Contractor: M. H. Wolfe & Co.



LACLEDE OPEN WEB STEEL JOISTS FOR MODERN SCHOOL CONSTRUCTION

Laclede's high-strength, lightweight open web steel joists are the ideal structural members for today's low, sprawling school architecture. They span wide areas without internal supports, are easy to handle and set in place, and reduce construction time and costs.

A typical example of this modern, low-cost method of construction is the new HARRIS ELEMENTARY SCHOOL, Madison, Ill. (above), designed by Virgil H. Dulgeroff and built by M. H. Wolfe & Co.

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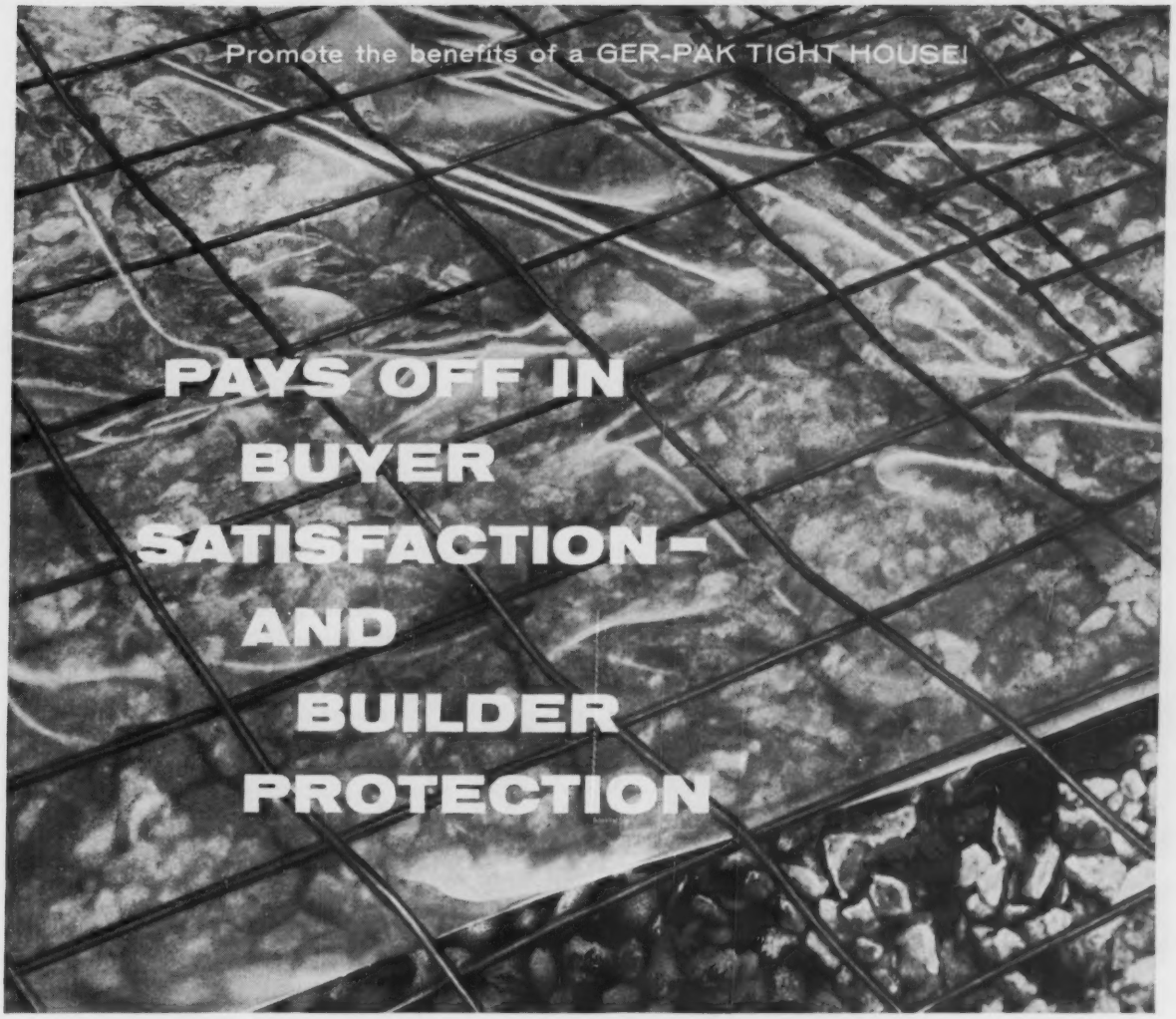
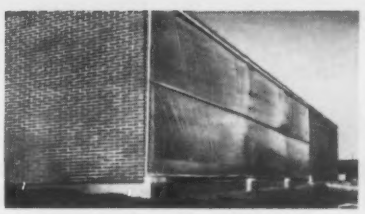


Banish cellar floor dampness complaints. Use GER-PAK Polyethylene Sheeting—the low cost water vapor barrier that provides positive protection under concrete slabs. Meets, by a wide margin, the requirements of F.H.A., Corps of Engineers standards, and complies with U.S. Dept. of Commerce CS-227-59 standards. GER-PAK eliminates splices and overlaps because it comes in SEAMLESS widths up to 40 feet! GER-PAK's easy-to-work-with nature lets you do your job exactly as specified on your blueprints—quickly, efficiently, perfectly!

Low-cost GER-PAK's versatility works with you many other ways. Gives superior dust and water vapor sealing between floors; protects materials and equipment from weather; in side walls prevents water vapor damage; plus dozens of other on-the-job uses.

You'll find tough, lightweight, dependable GER-PAK available in CLEAR, BLACK or opaque WHITE in the broadest range of seamless widths and stock thicknesses up to 10 mil. For truly superior polyethylene sheeting, specify GER-PAK to your dealer! Send for free samples.



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NEXT MONTH—A NEW FORM FOR THE MAGAZINE OF THE TOTAL ARCHITECT*

Next month PROGRESSIVE ARCHITECTURE introduces a redesigned format spectacular in its simplicity—easy to read, easy to look at—a visual architectural statement in magazine form.

The new plan and presentation further enhances P/A's record for trend-setting editorial changes. Everything informative, instructive and inspirational in P/A's editorial program is reemphasized in the new design—including more of the interpretative art of architecture, more renderings, sketches and drawings.

The "planning team" of Creighton, Magruder, Rowan, Holmes and Burns, working with the talented magazine designer John Peter, has developed a truly original concept that is dramatic but honest, simple but elegant. P/A remains true to its purpose . . . to give the *Total Architect a Total Magazine* of professional character and worth.

This Total Architect*—a composite of most of our readers—is a busy man with a wide range of interests and duties. He is first and foremost a designer and draftsman, but he is also an administrator, an engineer, often a specification writer and a sometime salesman of his own and his associates' ideas. P/A as the *Total Magazine of Architecture* is conceived to meet his every need.

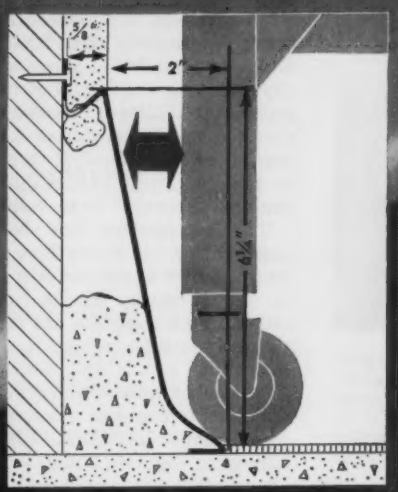
The subject of the May issue is architecturally designed houses. The Editors of PROGRESSIVE ARCHITECTURE sincerely hope you like and enjoy the redesigned magazine.

Brad Wilkin

Vice President & Publisher

Milcor Metal Base now Standardized

. . . and available from inventory!



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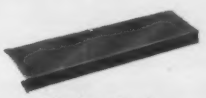
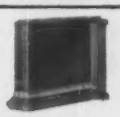
A Complete Selection of metal trim items in the Milcor Line

NEW! Clip-on Bases. Spring Clip simplifies installation. Sample sent upon request.



Window Stools

Flush Bases



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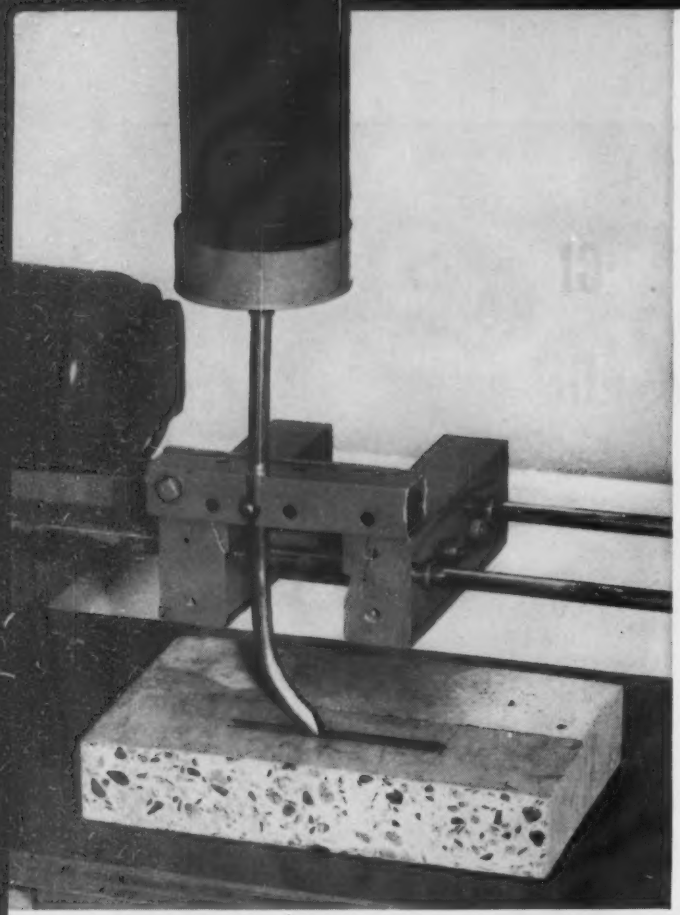


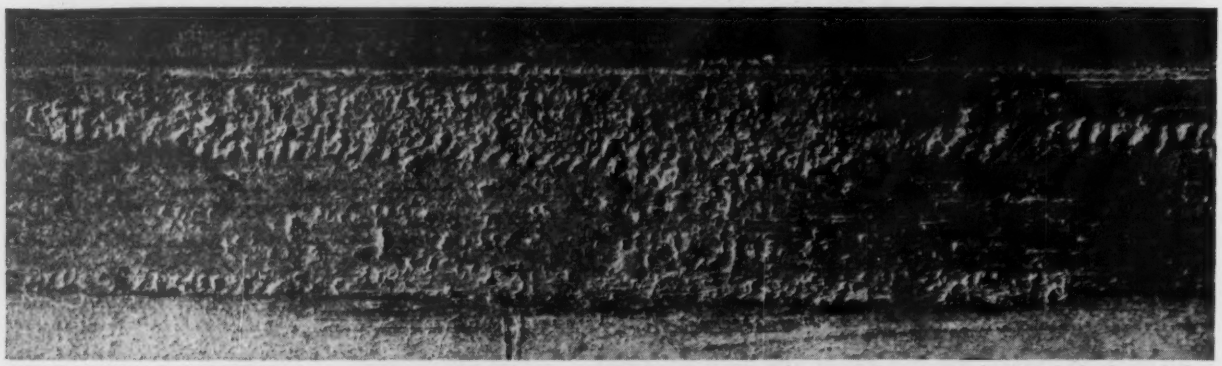
HERE IS THE APPARATUS used to make the torture scratch-hardness test in the research laboratories of Foster D. Snell, Inc. A steel bit with a half-inch chisel type edge was dragged back and forth repeatedly over the treated and untreated surfaces of the concrete specimens at an angle of 30° from the horizontal and under a load of 20 pounds. Machine was operated at 19 cycles per minute.

CAN YOUR FLOORS SURVIVE THIS TORTURE TEST?

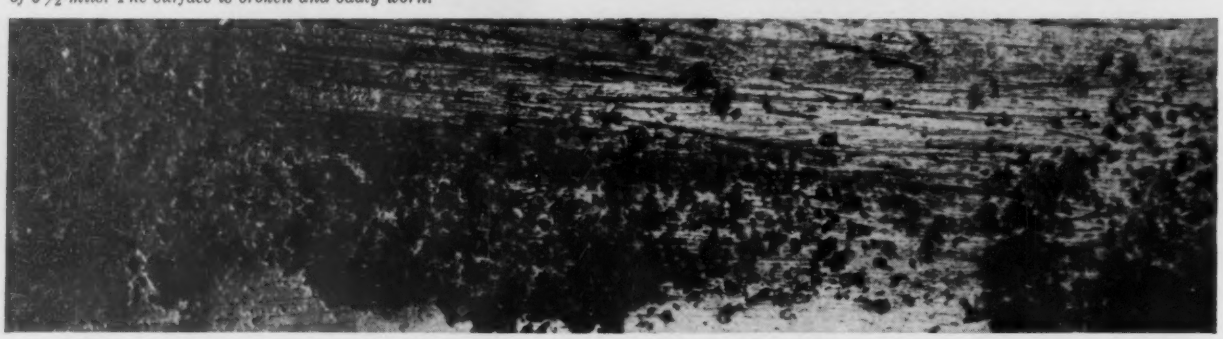
LAPIDOLITH makes concrete floors *highly resistant* to the worst traffic conditions, as proven by the Torture Test conducted by the independent research organization of FOSTER D. SNELL, INC. The Foster D. Snell, Inc. torture test applied to untreated concrete resulted in severe damage to the floor.

These actual and unretouched photos of the torture test prove conclusively that LAPIDOLITH imparts a higher degree of scratch and abrasion resistance to concrete, actually changing the nature of the concrete. Typical concrete sealers with "alleged" hardening qualities offer scratch and abrasion resistance *only as long as the surface film remains continuous and unbroken.* Once this surface film is removed or broken, which occurs during normal traffic wear, the concrete "treated" is as vulnerable as untreated concrete.

The fact remains that there is no floor sealer that can possibly function as anything more than a sealing compound when applied to set and dry concrete. Floor sealers simply cannot chemically harden concrete. Sonneborn has an excellent and a complete line of floor sealers and curing compounds which Sonneborn recommends for specific purposes for which curing and sealing compounds are designed. Sonneborn does not, and will not recommend a curing and sealing compound as a concrete floor hardener. Sonneborn recommends LAPIDOLITH as the best treatment for hardening concrete floors.



HERE IS WHAT HAPPENS when concrete is not treated. After 500 strokes, the untreated concrete shows wear of 0.0035 inch; the equivalent of 3½ mils. The surface is broken and badly worn.

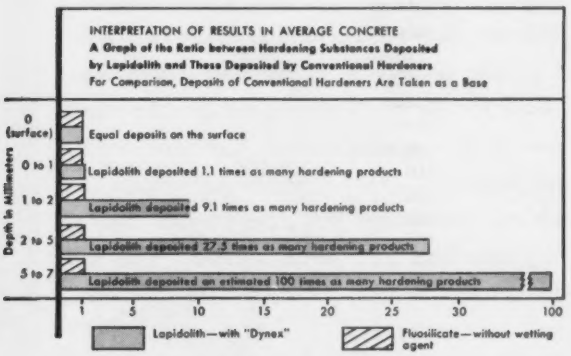


ANOTHER SPECIMEN OF THE SAME CONCRETE was treated with a coat of typical sealer. After 500 strokes, the surface showed wear of 0.0007 inch, the equivalent of 2/3 of 1 mil. The surface appeared unbroken. But, look what happened when the sealer was stripped away. Photo is of block abraded after stripping by paint and varnish remover. The concrete showed erosion to a depth of 0.0027 inch; or the equivalent of 2.7 mils. The surface was broken and badly worn away.

LAPIDOLITH hardened concrete floors can take the grind of day in and day out traffic.

Here are some additional facts about LAPIDOLITH:

1. ONLY LAPIDOLITH CONTAINS DYNEX®. Because of Dynex, LAPIDOLITH not only chemically hardens the surface, but *penetrates deeply* into the sub-surface pores and capillaries giving *greater HARDNESS IN DEPTH.* Proof of hardening in greater depth is shown in chart below. These radioactive tracer tests, were conducted by FOSTER D. SNELL, INC.


INTERPRETATION OF RESULTS IN AVERAGE CONCRETE
A Graph of the Ratio between Hardening Substances Deposited by Lapidolith and Those Deposited by Conventional Hardeners
For Comparison, Deposits of Conventional Hardeners Are Taken as a Base
Depth in Millimeters
0 (surface)
0 to 1
1 to 2
2 to 5
5 to 7
Equal deposits on the surface
Lapidolith deposited 1.1 times as many hardening products
Lapidolith deposited 9.1 times as many hardening products
Lapidolith deposited 27.5 times as many hardening products
Lapidolith deposited an estimated 100 times as many hardening products
1
5
10
15
20
25
30
100
Lapidolith—with "Dynex"
Fluosilicate—without wetting agent

2. RESISTS INSTANTANEOUS ACID ATTACK. LAPIDOLITH protection permits enough time to flush off acids before the concrete is harmed. (Proof of acid test available on request.)

3. GUARANTEED. LAPIDOLIZED concrete floors are fully bonded and guaranteed for 5 years against concrete dusting as a result of abrasion and wear, when applied under contract by Sonneborn—America's foremost manufacturers of liquid chemical concrete floor hardeners.

4. PROVEN SUCCESS. LAPIDOLITH is the *original* chemical floor hardener and has been distinguished by having received the famous "Brand-Names-Award." Over half a billion square feet of concrete floors have been successfully LAPIDOLIZED in the past 57 years.

5. EASY TO APPLY. LAPIDOLITH is a laboratory controlled, factory prepared, stabilized colorless solution and very simple to apply.

"CUSTOM DESIGNED" LAPIDOLITH CONCRETE FLOOR SYSTEM

There is no one product or system that can perform all the functions required for all concrete floors. Floors are individually designed for different purposes, and every one product or system may be either under-designed or over-designed for the specific requirement. Only Sonneborn offers you a "custom designed" LAPIDOLITH Concrete Floor System to help *you* with your *specific* floor problem. Sonneborn is the one company you can come to with *all* your concrete floor treatment requirements.

At no obligation to you, we will have one of our qualified floor specialists make an expert inspection and recommendation for you.

Replacing worn-out concrete floors will cost you many times more than a simple, low cost, application of LAPIDOLITH. WRITE TODAY FOR FREE INSPECTION.

All photos are *actual* and *unretouched* and are of tests made by FOSTER D. SNELL, INC., with their facilities and under their supervision.

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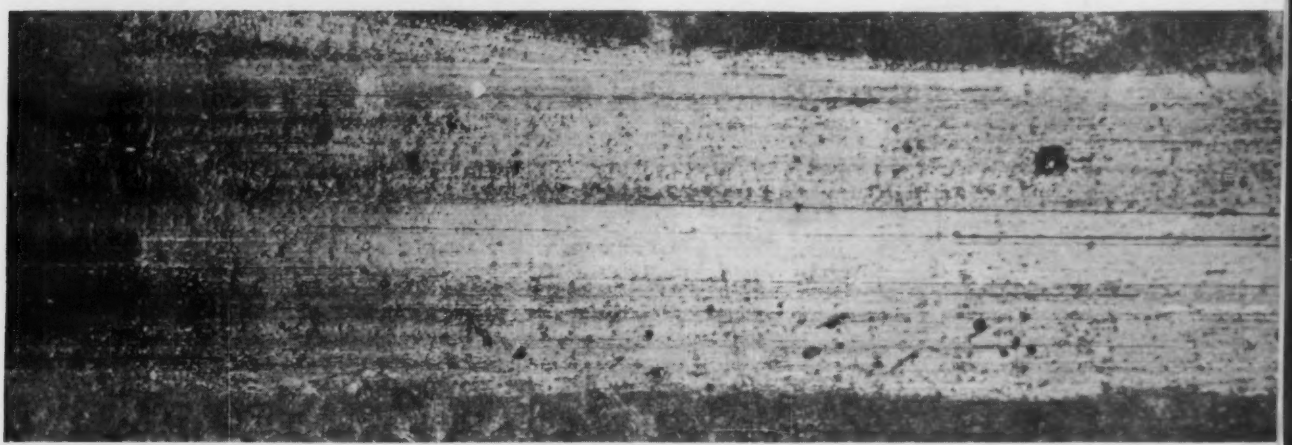
Always Consult Your Architect or Engineer



HERE YOU SEE THE LAPIDOLITH treated concrete after 500 strokes. Note that even under six magnifications the surface appears unbroken, with total wear being measured at only 0.0003 inch! The equivalent of 1/3 of 1 mil! Particles of metal may be seen imbedded in surface of the concrete.

Magnifique!

(Pronounced Mah-ni-FEEK)

STYLED TO THE MODERN ARCHITECT'S STANDARDS!

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Now for your next home or apartment building, In-Sink-Erator has created a beautiful new, different, and better line of Garbage Disposers . . . the *Gold Comet*, *Silver Star*, *Saturn*, and *Mark 27*. We firmly believe they are the finest ever made, featuring *exclusive* automatic reversing action . . . *exclusive* self-service wrench . . . *exclusive* miraculous Polystyrene sound absorbing inner-liner . . . 5 year warranty. You will find In-Sink-Erator is the most wanted "built-in" you can specify.

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Designed by Reinicke

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New! Exclusive! Miraculous Polystyrene inner-liner achieves new level of quietness.

Twice The Life—Non-jamming!

Exclusive! Patented, automatic reversing action. Prevents jams. Doubles shredder life!

The magnificent new Gold Comet Garbage Disposer from the originator and perfecter!

The fashion houses of Paris know no smarter styling than that found in the new In-Sink-Erator Gold Comet Garbage Disposer. Inspired by the heavens from which it gets its name, the new modern shape Gold Comet is as beautiful and quiet as the stars. It sets new standards for styling and design.

And this new In-Sink-Erator reaches new levels of performance with 124,200 positive cutting edges per minute. Never before have you seen trips to a garbage can ended in such high fashion. Never before has a Disposer been so efficient in shredding food waste down your kitchen drain.

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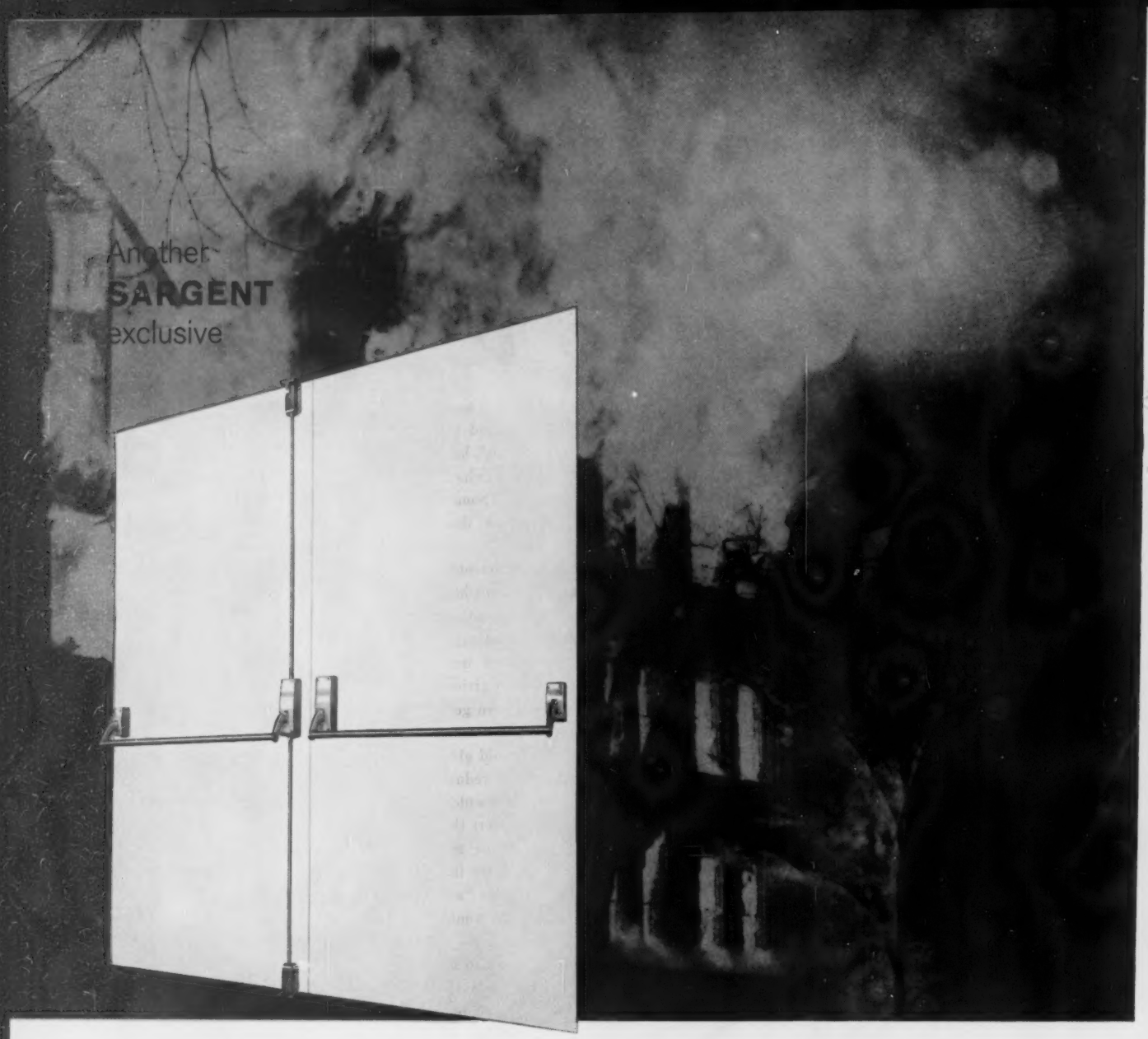

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REINHOLD

taxation barrier

Dear Editor: I have just finished reading your P.S. in the February issue—there are probably many answers to be given to your question, but they probably won't all be reasonable. I would give you the following—

Many would like to answer as you suggest in the first part of the second to last paragraph—"have no part, etc." but I'm afraid the job security and what-have-you takes the foreground. (Something that may very well wreck this country in the long run.)

Most, if not all, taxing governmental bodies—Federal down to rural township—do not subscribe to encouragement of those who would beautify the landscape unless it be a hunting reserve or tree farm, because of the possibility of giving a tax advantage knowingly and then getting criticized for it.

I doubt whether New York would give much if any consideration to the reduction in the land tax if someone decided to tear down a building and convert the lot into a park or playground for the surrounding buildings—being under the same ownership. There may be an "adjustment" but the total tax take would come out the same, I wager.

I believe there is going to have to be a drastic change in taxing methods before those who want to put more air and light into the C.B.D. are going to be able to make any great headway. As it has been said, a man who improves himself or his property gets hit the hardest at tax paying time.

HARRY S. THAYER
Green Bay, Wis.

people are more important

Dear Editor: I was very much impressed with your February P.S., "Who Would Say No," and I would like to suggest that it is not too much to hope for. You and your excellent magazine can do something about it. A column dedicated to the *development of human priorities* might lead the way.

We are afraid of a vacuum, *but less is more.* (Mies van der Rohe) We are afraid to sit back and think. We try to turn over millions worth of construction materials, *but in action we manifest our imperfections while in passivity and in suffering we advance and receive strength.* (St. John of the Cross)

Our strangled cities prove that expediency is no longer expedient. Now we need to be convinced that people are more important than cars and that the common good should be preferred to individual profits.

We are all hungry for principles of order and co-operation, for an explanation of how parts relate to a whole and how means relate to an end.

You can give inspiration to those brave, bold architects who would say no.

MELITA RODECK
Washington, D.C.

the sad story

Dear Editor: Re P.S., FEBRUARY 1960 P/A, yes, I am afraid it is too much to hope for.

Your report of the New School "seminar" was simply the sad story of man and money, and you could have subtitled it "Feet Of Clay."

Et tu, Pietro!

ISAAC W. WILLIAMSON
Atlanta, Ga.

atom-bomb target?

Dear Editor: Anent the "cork," too late! (P.S., FEBRUARY 1960 P/A). Open planning in New York invites an atom bomb. When you find the architect to "not do" architecture, you find a "Tiger at the Gates" situation. But keep trying—someone might turn up one of these eras.

LEONARD SCHEER
New York City

asks for true costs

Dear Editor: Attached is a copy of a letter addressed to Joseph Campbell, Comptroller General of the United States. I believe the letter is self-explanatory with respect to our views concerning the General Accounting Office reports which they have issued relating to the use of consulting engineers in the Federal Aid Highway Program.

(Continued on page 62)

HANGING WAS TOO GOOD FOR HIM!

or VYGUARD vinyl wall covering has all the virtues

Impetuous Nero took things into his own paws, when he discovered my best friend at my private wall safe. Fortunately, it all happened on our new VYGUARD vinyl wall covering. We'll miss Raoul. But our VYGUARD is completely untouched by the whole ugly mess. Virtually impervious to the vicissitudes of strife . . . washable, flameproof and scuffproof . . . not a tell-tale speck of blood or a scratch remained. Hanging was too good for Raoul. But, for better, easier, more economical hanging, no vinyl wall covering does it like VYGUARD. For impeccable color and style range, newly perfected backing and construction . . . all at half what you'd expect to pay, investigate VYGUARD. VINYL-WALL LTD., 339 FAYETTE STREET, MAMARONECK, N. Y.

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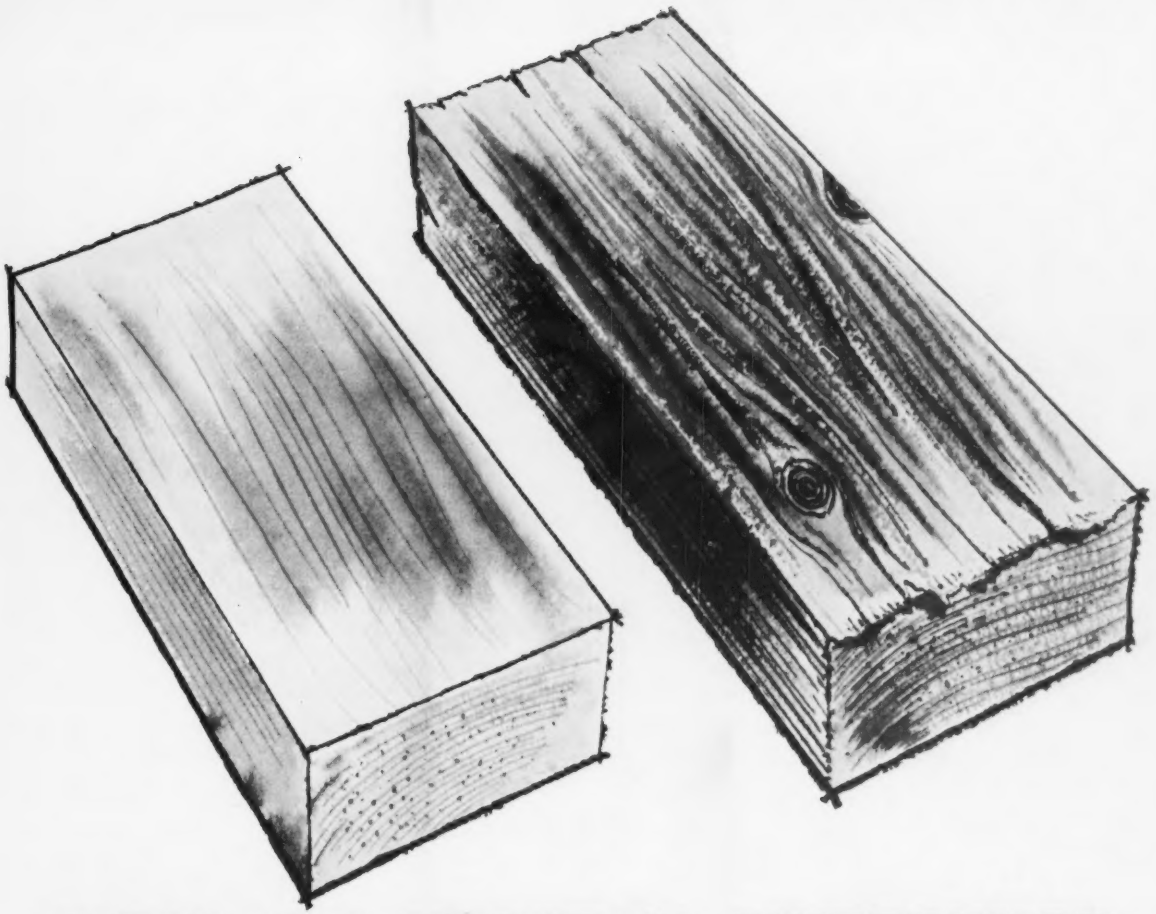


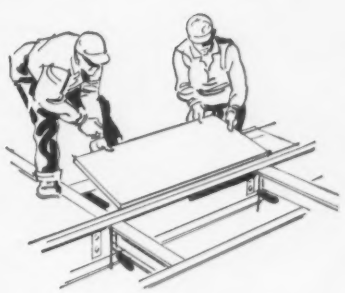
THERE IS A MATERIAL DIFFERENCE

And the lumber industry has made selection easier for you through approved standards of grading. You expect the best grade to cost a little more because *you get more for your money*. Grade 1 looks better, has greater strength and provides better service for a longer time.

If roof deck materials were graded for quality, less confusion would result from their surface similarities. Tectum® stands alone in its class. It is the only preformed wood fiber board which uses a continuous process; a rapid, chemical reaction process utilizing a specially formulated binder naturally compatible with wood fibers. This exclusive binder makes possible the use of machine automation — a manufacturing process that assures a uniform, quality product through close process control.

All other manufacturers of this type roof deck use a process which requires that the fibers be chemically treated prior to mixing with the binder. This treatment reduces to a great extent the high tensile strength of natural wood fibers.

Tectum is the only product of this type that retains the live strength of tough wood fibers to provide high secondary strength. Tectum is tougher, yet lighter in weight, and has great resistance to impact and abuse. And Tectum is Fiberguard® protected with specially formulated silicones for effective water repellency.



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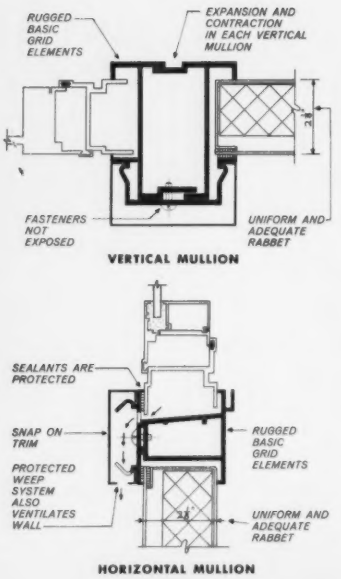

Regional Office Building, Allstate Insurance Co., Skokie, Illinois. Dunlap & Esgar, Architects; J. L. Simmons Company, General Contractor.

St. Vincent's Hospital, School of Nursing, Toledo, Ohio. Drake and O'Meara, Architects; A. Bentley & Sons Co., General Contractor.

Robertson Versatile Wall offers the designer unique latitude for individual expression without subjecting him to the pitfalls of high cost and lack of weatherability sometimes encountered in customized curtain-wall construction. Components are standard—see the mullion cross-sections at the left. Sealants are the best available and they are protected. Sections won't leak through under hurricane conditions. Units will expand and contract to care for building movement and steel framing tolerances without loss of tight seal. But the three basic elements which change appearance can vary so much that your design can be as individual as your own signature.

1. *the grid*

Individuality in a curtain wall design is realized first by the proportions and detailing of the mullions and sills which form the grid system. With Versatile Wall, the designer can choose from a large selection of sizes, profiles, materials and colors. The snap-on caps can vary greatly in depth to give emphasis where desired. The choice of many beautiful colors in porcelain enamel on aluminum invites originality. Aluminum and stainless in their characteristic finishes also available.

2. *panels*

Here, again, the designer can choose from a large array of colors and materials. Robertson Spandrel Panels, insulated or uninsulated, can be furnished in a wide variety of colors in porcelain on aluminum, steel or aluminized steel. Panels of glass, tile or polished stone can also be used with Robertson Versatile Wall. For special conditions, porcelain laminated panels can be furnished.

3. *sash*

A complete line of sash in fixed, reversible, top hinged, side hinged and projected styles are made in fourteen types to handle every window requirement. Six hundred standard sizes are made for use with Robertson Versatile Wall.

The Central Trust Bank Building, Rochester, N.Y. Carl R. Travers, Architect; John B. Pike & Son, Inc., General Contractor.

The caps shown should not exceed 6" in depth and 3¾" in width. Deeper mullions can be obtained by using combination caps. Consult a Robertson representative for specific details.

V—100 insulated | glass-faced | ceramic tile

A few of the many types and sizes of Robertson Sash available.

St. Therese School, Fort Wayne, Ind. James McCarron, Architect; G. Lauer Construction Co., General Contractor.

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50 years of experience in Puttyless Glazing Construction

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In England—Robertson Thain Ltd., Ellesmere Port, Cheshire
In Canada—Robertson-Irwin Ltd., Hamilton, Ontario; Edmonton, Alberta

Write for your copy of file folder containing complete details and specifications on Versatile Wall.

NAME_____

TITLE_____

COMPANY_____

ADDRESS_____ CITY_____

Space Age Design Features Round Concrete Columns

A FACTORY "Top Plant of the Year"—1959, Texas Instruments Incorporated's Semiconductor—Components Division, Dallas, Texas. Architects: O'Neil Ford & Associates, San Antonio; Richard S. Colley, Corpus Christi; A. B. Swank Associates, Dallas. Site Planner: San B. Zisman, San Antonio. Contractor: Robert E. McKee, General Contractor, Inc., Dallas. Photo: Courtesy FACTORY Magazine.

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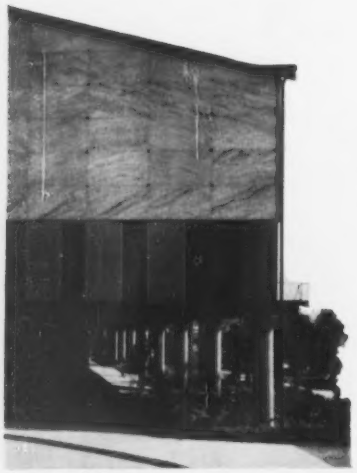

Photo: Squire Haskins, Dallas

With their clean-cut, functional beauty, round columns blend into the ultra-modern appearance of this electronics plant equally as well as they graced the Acropolis, centuries ago. In any structure, round concrete columns provide structural support while definitely contributing to the overall design.

Use round concrete columns for bridges, buildings, or any structure . . . and when you do, specify forming with Sonoco SONOTUBE Fibre Forms and assure owners of lowest possible costs.

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There's a SONOTUBE Fibre Form to meet any job requirement . . . in sizes from 2" to 48" I.D., any length. Can be sawed.

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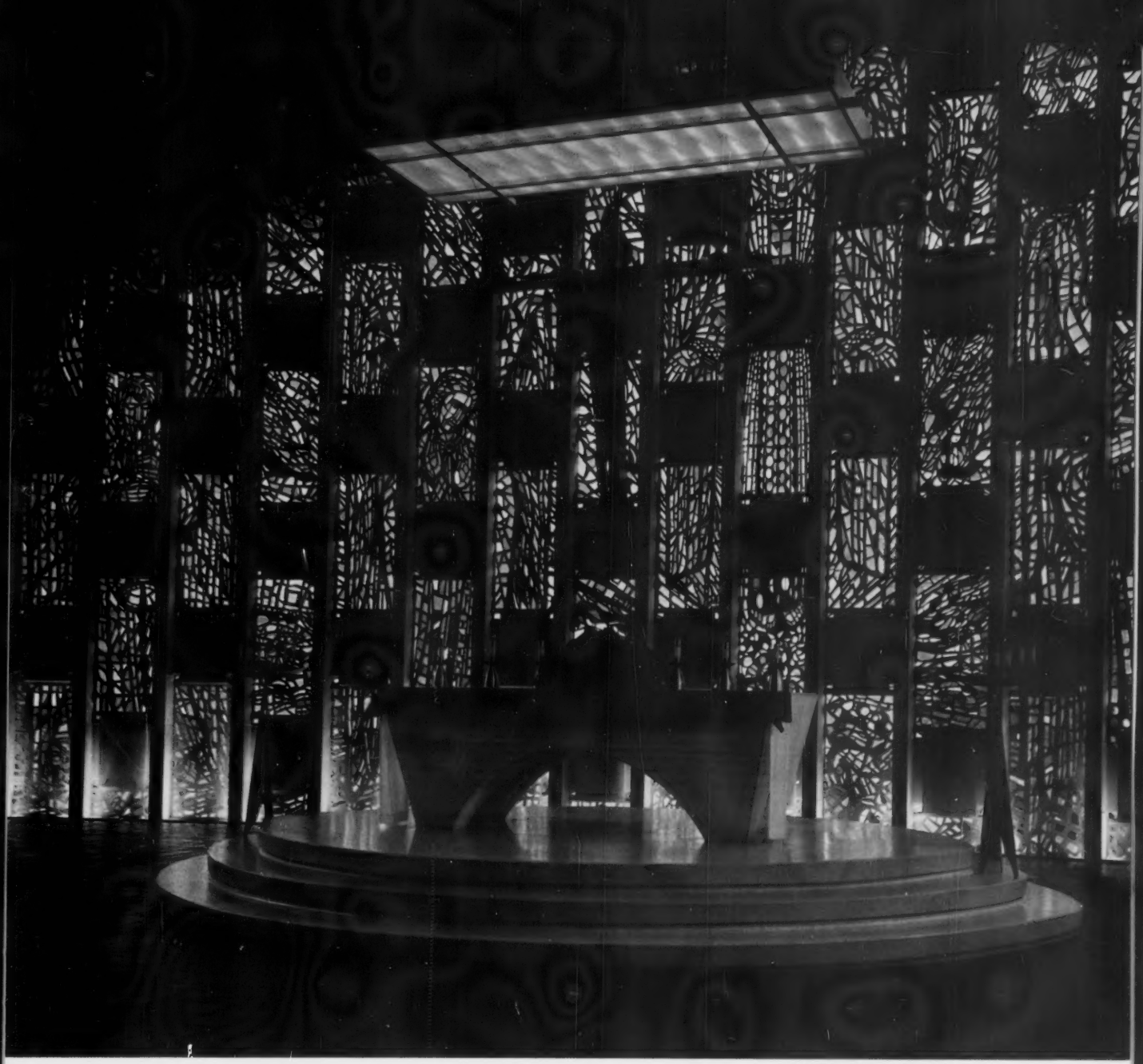
For complete information and prices, write

SONOCO

Construction Products

SONOCO PRODUCTS COMPANY 4516



ARCHITECTS: BELLI & BELLI, CHICAGO

campus kaleidoscope!

An outstanding example of what can be done with color in modern architecture is *Moreau Seminary* at the University of Notre Dame . . . designed by the architectural firm of Belli & Belli. From stained glass window of the chapel to gymnasium shower room, pleasing color schemes invite the eye. An important part of this decor is Weis *Vitre-Steel* toilet compartments and cabinet showers in terra cotta porcelain finish . . . one of 20 appealing colors now available. Ask your Weis representative or send for complete information. Discover why dependable Weis products are used in America's most important buildings.

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LOUNGE, PUTNAM COUNTRY CLUB, MAHOPAC, N.Y. • ARCHITECT: R. D. BURBANK, GREENWICH, CONN.

Permanent Fairway: *Terrazzo*

Terrazzo's beauty is the durable sort, capable of withstanding the most rigorous demands. Furthermore, a Terrazzo floor is easy to walk on. Frictional resistance exceeds Underwriters Laboratories' minimum coefficient of .50 by at least 20%. Terrazzo is virtually impossible to wear out. These are a few of the reasons why it was used in the country club lounge illustrated.

Others: *Economy of maintenance.* Since only wet cleaning is required and refinishing and buffing eliminated, savings of at least 20c per sq. ft. per year in cleaning cost are realized.

Cleanliness. The smooth, jointless surface (marble, 70% or more, Portland cement, 30% or less), sealed after installation, becomes stain resistant and practically non-absorbent.

Dependable installation. This Association's objective is to insure installation exactly as specified. Terrazzo meets practically all requirements for design or color. Use it for walls, stairs, wainscots and floors.

For detailed information, write the Association. Free AIA kit upon request. Association field representatives available for consultation. Catalogued in Sweet's.

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p/a views

(Continued from page 53)

While we, as consulting engineers, have selfish motives in seeking to have the Federal and State governments utilize the services of consulting engineers, we have another interest equally compelling in bringing this matter to your attention. We sincerely believe that the use of consulting engineers, whose services are obtained by contract arrangements, is in the best economical interests of both the Federal and State agencies from a taxpayer's standpoint. Our basic concern is that the true costs of the Government Agencies performing their own engineering services be fully disclosed to the public, so that fair comparisons of these Government costs can be made with the established contract awards made for consulting engineers' services.

The continued practice of issuing *ex parte* statements by Government officials that Civil Service engineering is cheaper and more efficient than that rendered by engineers in private practice should be proved by facts and not *un*supported opinion. We believe that whatever influence you can exert toward obtaining full disclosures of true costs of Government activities will be in the best interests of the taxpaying public.

RALPH M. WESTCOTT
President
Consulting Engineers Council
Los Angeles, California

Joseph Campbell, Comptroller General
General Accounting Office
Washington 25, D.C.

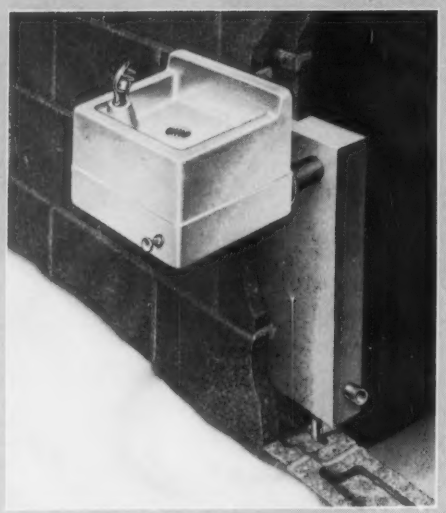
Dear Mr. Campbell: Another report of the General Accounting Office dated December, 1959, has come to my attention regarding the Bureau of Public Roads and the Federal Aid to Highways program in Region 2. You may recall what I considered to be a very cordial and candid discussion I had with you on November 16th concerning the role of Consulting Engineers in the highway program.

At that time, it was my understanding that the criticisms we raised concerning the previous report would not likely be repeated in the same tenor that the earlier report followed. It was my further understanding that we would have the opportunity to comment on reports of this type, prior to publication. This later report certainly makes what we consider to be a number of very unfair accusations. Quoting from the report, "The use of Consulting Engineers results in additional costs to the States and the Federal Government by reason of the overhead and profit included in the fees normally charged by such firms." We believe that this statement is wholly unwarranted and without validity; however, your office could obtain the actual proof for objective cost comparison, none of which we have seen, nor has it been published.

Quoting again from this latest report issued by your office, "It is our view that the extensive use by some states of outside consulting engineers for the usual types of engineering work, which in other states is done by state-employed engi-

(Continued on page 64)

FREEZE-PROOF



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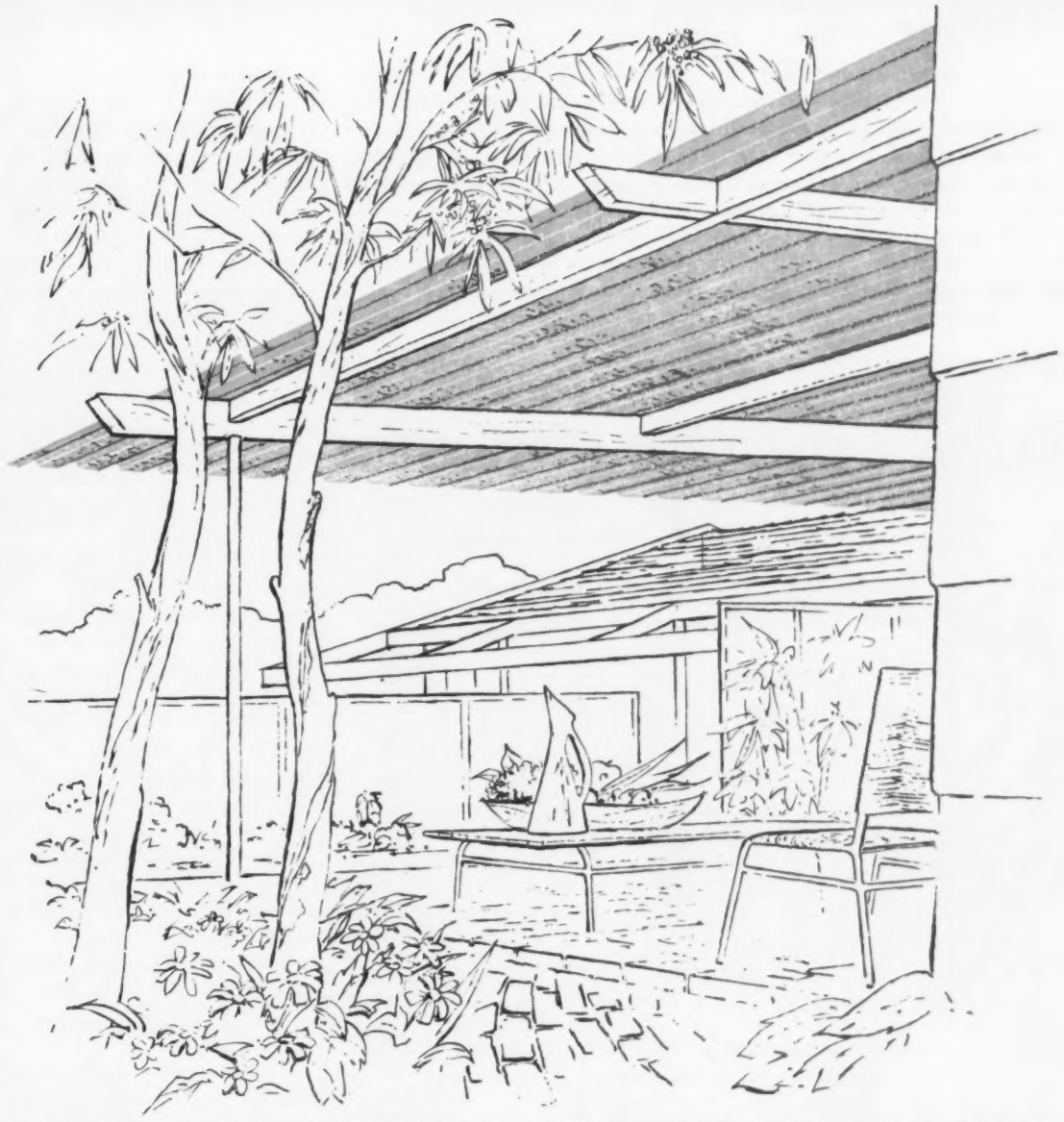

THE EXCITING NEW SHAPE IN PANELS IS RIDGEWAY!

Here is a brilliant new Alsynite development in translucent fiberglass panels. It's the new-shape *Ridgeway* for patio roofs, carports and other outdoor coverings.

Wide channels provide excellent drainage with minimum pitch, allowing architects greater flexibility in design. The new shape also changes the look as well as the slant, creates an interesing textural effect. Specify Ridgeway in your choice of seven muted decorator colors.

Weather-resistant *Superglaze* assures lasting beauty. Alsynite's exclusive heat-block, *Filtron 25*, controls heat and glare while radiating soft, diffused light.

Superglazed Ridgeway panels are guaranteed in writing to maintain color, strength and surface for ten years. For your local Alsynite source, look under "Plastic Products" in the Yellow Pages.

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FIBERGLASS PANELS

ALSYNITE COMPANY OF AMERICA, Dept. PA-40, San Diego 9, Calif.

Send more information about the new Ridgeway panel.

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(Continued from page 62)

neers, substantially and unnecessarily increases engineering costs and results in an avoidable inequity among the states in Federal participation in these costs."

We question the motives of these statements; it appears they are directed solely at the elimination of Consulting Engineers from the highway program. We would like to point out that Consulting Engineers are available for specific projects with no continuing costs to the Government after completion of the project. When a Federal or State Agency has a lull in workload, Civil Service employes are kept on, thus increasing the overhead of that department; however, to the best of our knowledge, these costs of the housing facilities for the department, plus the fact that these are tax-free facilities, which our offices are not, are never evaluated when discussing the cost of Government agencies doing their own engineering. The tendency is to utilize as the basis for costs only the direct labor chargeable to a specific project with a nominal overhead. It is axiomatic that the competition in private enterprise demands efficient operation and maintaining staffs only capable of handling the current workload, all of which is contrary to the established practices of Civil Service and Government.

Quoting from *Bulletin No. 60-2* issued by the Director of the Bureau of the Budget, Maurice H. Stans, at the direction of the President, "2. *Policy*. It is the general policy of the administration that the Federal Government will not start or carry on any commercial-industrial activity to provide a service or product for its own use if such product or service can be procured from private enterprise through ordinary business channels."

"B. *Costs*. Continuation of Government operation on the ground that procurement through commercial sources would involve higher costs may be justified only if the costs are analyzed on a comparable basis and the differences are found to be substantial and disproportionately large. In such cases, the costs of both Government operation and private procurement must be fairly computed and complete. The costs assigned to Government operation must cover all direct and indirect outlays, such as pay and other allowances for personal services and leave; contributions for retirement and disability; supplies; materials; transportation; warehousing; utilities; maintenance; repairs; and similar factors. Appraisal of elements not usually chargeable to current appropriations, such as depreciation, interest on the Government's investment. 2/ the cost of self-insurance (even though it is unfunded)."

The particular issue that we want to make is that neither Federal Government Agencies, nor State Highway Departments make available to the taxpayers and to the public the actual costs of their operations. When we talk about costs, certainly all of the elements of cost included in Paragraph B above quoted

(Continued on page 70)

MAXIMUM FIRE DOOR PROTECTION

to Save Both Life and Property

. . . depends on UL Heat Transmission Ratings!

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To Insure LOWEST HEAT TRANSMISSION RATING*

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In numerous fires of recent years, many lives were lost not by flame alone, but by excessive transmitted temperatures. For the full story and complete information on fire doors, frames and hardware, request FREE Catalog DHS-2060.

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With new 25" pre-trimmed Fashon, The General Tire & Rubber Company reduces the ultimate cost of using quality vinyl wallcovering. Now the superior elegance, durability and low maintenance advantages of vinyl wallcovering can be extended to every residential, commercial and institutional application. In the latest fashionable colors, rich textured effects and woodgrains, new Fashon offers unsurpassed versatility and long-term economy to the designers of fine interiors. For samples and information

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announcing a completely new concept in quality vinyl wallcovering

New-Fashon is color correlated with the new lines of Bolta-Floor vinyl floor tile.

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NEW ADDITION

TO THE FABULOUS FONTAINEBLEAU

Addition to Fontainebleau Hotel, Miami Beach, Florida

Architect: A. Herbert Mathes, Miami, Fla.
General Contractor: Taylor Construction Co., Miami, Fla.
Masonry Contractor: Kirkland Masonry Co., Hialeah, Fla.

FACTS ABOUT THE FONTAINEBLEAU ADDITION

The proportions of the new addition to the Fontainebleau are immense. For example, a ballroom that is 200 x 140 feet, the largest in the world. A theater-banquet room that will seat 4,000 at a dinner. Set up for a performance, it will seat 6,000. A new building with 400 hotel rooms is going up right alongside. A little over three miles of Keywall is being used as a masonry reinforcement in the new addition.

BUILT TO STAY YOUNG WITH

KEYWALL

galvanized masonry reinforcement

You can't be leaning over the shoulder of each mason all the time to make sure he uses the reinforcement right. Yet proper use of the reinforcement makes the difference between a building that stays young and one that ages fast. But what can you do?

Here's one man's answer. Masonry Contractor Hugh Kirkland says, "Lapping is the key to proper masonry reinforcement. Here's what I mean. Some masonry reinforcement is hard to lap. Too thick. By thick I mean an $\frac{1}{8}$ inch in diameter. Lapped, that's a quarter inch. So, with a $\frac{5}{8}$ inch mortar joint, you get little mortar around the wire. That means poor bond, poor embedment. So what happens? Most of the time reinforcement is butted, not lapped. That's even worse.

"We simply avoid the problem. We use Keywall. It comes in 200 foot rolls, not short lengths. So you very seldom have to lap it. And when you do, it's easy . . . easier than butting it. So of course, my men lap it. And when Keywall is lapped, there's still plenty of room for mortar.

"Keywall is a lot easier for my men to handle because it comes in rolls. It's easier to cut, too.

"But it's not only a matter of my men liking it. Keywall reduces shrinkage very effectively. And it's economical. What could be better than Keywall?"

KEYSTONE STEEL & WIRE COMPANY
Peoria 7, Illinois

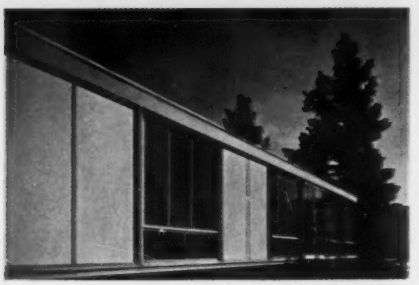
KEYWALL · KEYMESH® · KEYCORNER · KEYDECK · WELDED WIRE FABRIC · NAILS

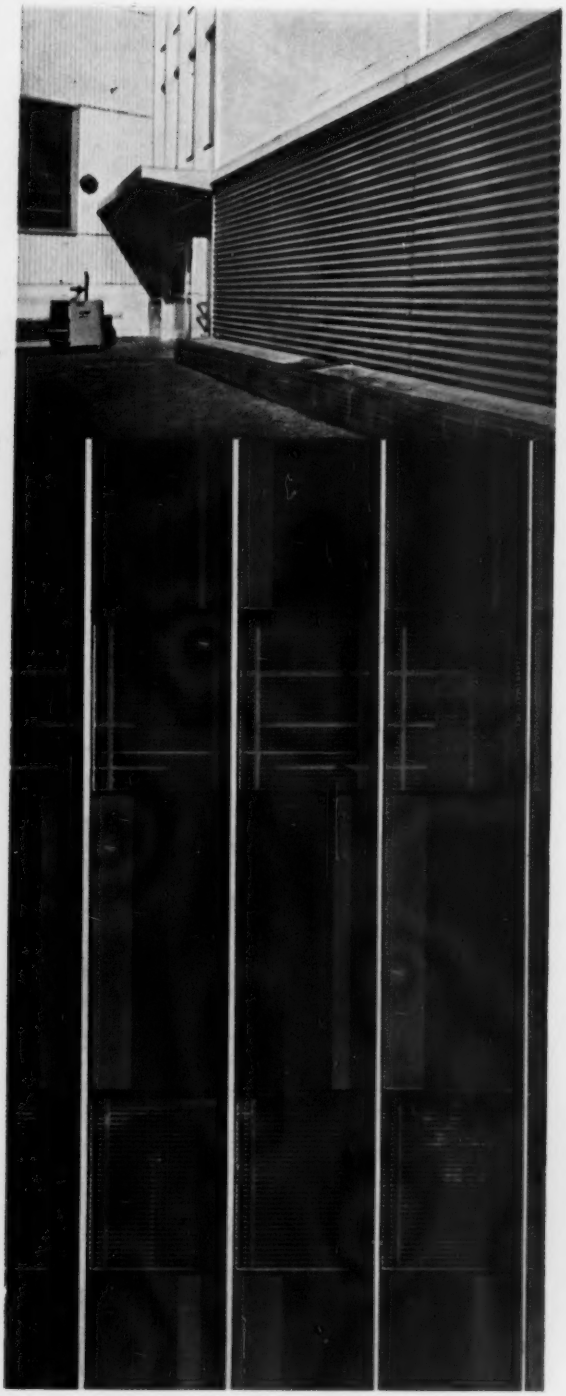
Just unroll it and you're ready to go. Joe Kuntz, Superintendent for the Masonry Contractor, Hugh Kirkland, shows how easy Keywall is to work with for the benefit of mason Fred Kinnaird. Keywall is made for wall thicknesses of 4", 6", 8", 10", and 12".

WALLS

New Approaches to Old Problems with Modern Products by Johns-Manville

ASBESTOS WALLS . . . Soffits of the overhanging roof, window spandrels and returns at the entrance of this plant are Flat Transite. Large panels of fire-safe economical Corrugated Transite are used for the main wall areas. These structurally strong asbestos-cement sheets can be used equally well with steel frame construction or with wood framing.

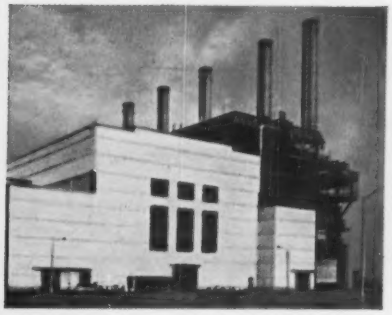




THIN WALLS . . . Here, porcelain on metal skin was laminated to both sides of Johns-Manville Micro-Flexboard for a total thickness of only 5/16". These curtain walls have no waviness; stay uniformly flat. Virtually any finish can be laminated or applied.

TWIN-PURPOSE WALLS . . . By using J-M Transitop for the walls of this laboratory, both interior and exterior finish are provided by one material. The large, quickly installed panels consist of an insulating core faced on both sides with strong, tough asbestos-cement sheets.

DIRECTIONAL WALLS . . . Sheets of J-M Corrugated Transite erected horizontally provide a strong directional accent at the entrance of this building. These asbestos-cement panels can be used painted or in natural stone-like gray.



MASSIVE WALLS . . . The massive main element of this power plant is faced with Corrugated Transite . . . structural panels that combine fine appearance and permanence.

Interesting and functional approaches to the handling of exterior walls—and exciting design potentials adaptable to a wide range of building types—become available with the use of Johns-Manville building products. Shown here are recent applications on buildings in different sections of the United States.

For more than a century, Johns-Manville has been famous for its leadership in research and in the development of quality building products. This knowledge and experience is available through Johns-Manville building specialists who can be reached by contacting Johns-Manville, Dept. AR-3, Box 158, 22 E. 40th St., New York 16, N. Y. In Canada, address Port Credit, Ontario.

TRANSLUCENT WALLS . . . Johns-Manville Corrulux reinforced fiber glass panels combine design with function . . . to provide soft, natural interior lighting. Use these shatterproof translucent panels anywhere, corrugated or flat. Available in a wide range of colors.

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p/a views

(Continued from page 64)

from the Bureau of the Budget should be evaluated. Government Agencies have overhead and administrative costs, which are all too often hidden in the general tax structure. Profit for consulting engineering firms is nominal and from this must also be paid State and Federal Income Taxes to support these Government enterprises.

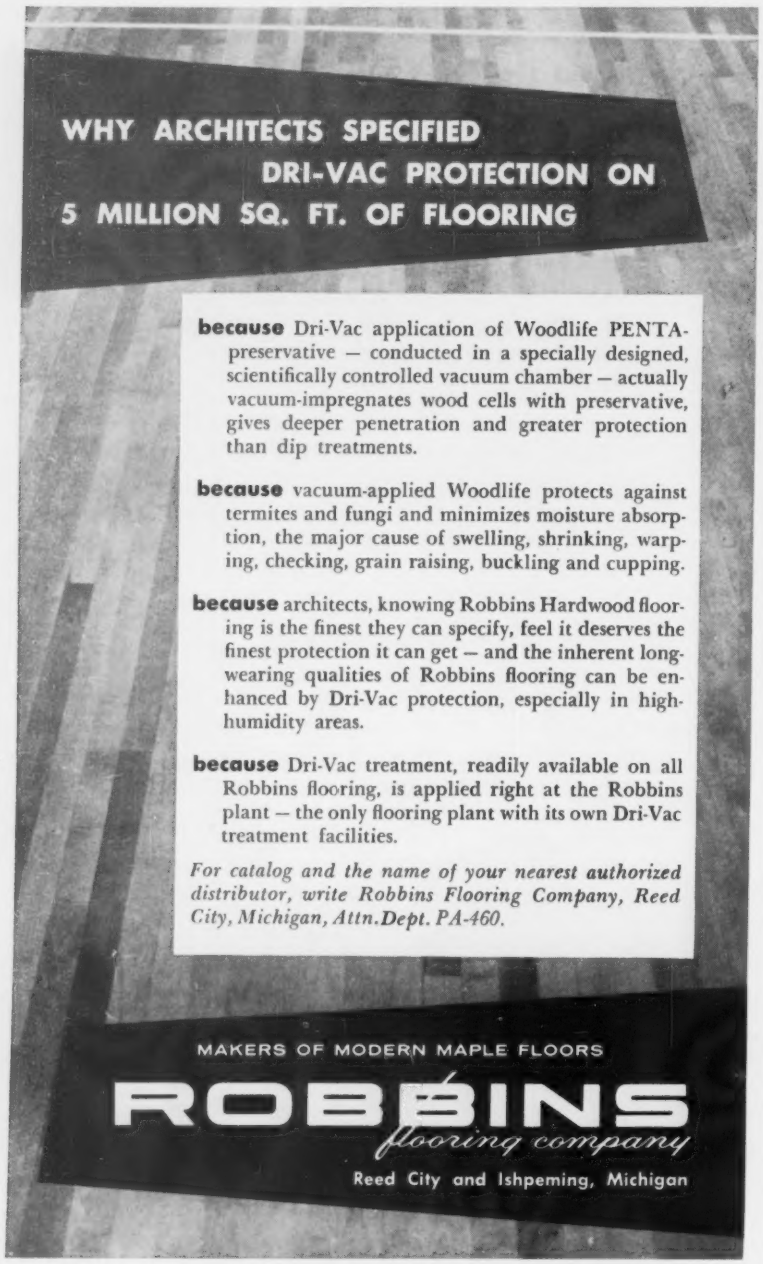
It appears evident to me that I completely misunderstood you at the time of our interview, or you have not read this report in the light of that discussion. We believe that it is high time that the General Accounting Office undertake true cost analyses of the operations of Government Agencies and Departments, who are in direct competition with the professional services offered by engineers in private practice. The fees paid to us are a matter of public record and we believe that they are fair and equitable, and that the services rendered are professionally competent and economical. It is unfair for these critical statements to be continually made that Consulting Engineers' services are excessive when no supporting evidence of Government costs are published to prove or disprove these statements.

The implications throughout this report dealing with the services of Consulting Engineers are that there is something immoral, dishonest, or detrimental to the Government's best interests when private-practice Consulting Engineers are utilized by State Highway Departments. We do not believe these implications to be true. When and if verifiable audited statements are published showing all of the costs of any Federal or State Engineering Departments truly reflecting the full costs of that operation, we will abide by these findings. Until that time, we have every right to contest unsupported statements, such as those made in this latest report. In California, a legislative investigating committee has determined that the costs of the California State Highway Department are in excess of 25% of the cost of construction. While the State Highway Department performs services not regularly or appropriately delegated to Consulting Engineers, this is a far cry from the average of 4% awarded Consulting Engineers based on cost of construction, which was contained in your previous report, and assuming for the sake of argument that the consultants made 10% on this 4%, it would then amount to four-tenths of one percent on the total cost of construction for profit, from which must be paid income taxes to support your agency and the others of the Government.

It was my feeling when I discussed this problem with you that the General Accounting Office had no reason to impugn the contractual relations entered into with Consulting Engineers, but this last report belies that belief.

Copies of this letter will be withheld from distribution to other interested groups and Government officials, pending an early reply from you. Distribution is scheduled for January 11, 1960.

R. M. W.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Surgeons operate with more confidence in electronically clean air

The trend to pure air indoors is accelerating in *all* types of buildings. Hospitals are no exception. *Entire hospitals* are being provided with air that's electronically cleaned and charcoal filtered—free of odors and airborne dirt, a dangerous source of bacteria. In such a fresh, clean atmosphere, surgeons can operate with greater confidence. Pure air also promises healthier patients, lower maintenance costs.

Assure your clients of pure air indoors by recommending a Honeywell Electronic Air Cleaner and Charcoal Filter system. This system removes odors and 90% of all airborne dirt. It cuts air conditioning costs, because less outside air is needed for ventilation, enabling you to specify a smaller air conditioning system. Call your nearest Honeywell office, or write Minneapolis-Honeywell, Minneapolis 8, Minnesota.

See us in Sweet's 1960 Architectural File, Section 30D/Mi.

75th YEAR — PIONEERING THE FUTURE

Honeywell

First in Control

H HONEYWELL SINCE 1885

Suspended Roof for New College Gymnasium

"Column-free on the inside" is the way the architect describes this exciting and wholly utilitarian structure. It is the Physical Education Building of the Central Washington College of Education, Ellensburg, Washington. It is 150 ft wide by 390 ft long and contains, among other things, a main gymnasium, upper gymnasium, field house, swimming pool, apparatus room, two four-wall handball courts, two classrooms, 14 offices and, locker rooms, dressing rooms, etc.

The suspended roof is actually floating, being slip-fastened to the exterior walls. There are twenty-eight 80-ft high prestressed concrete pylons. Each supports two pairs of 1-5/16 in. prestretched, galvanized bridge strands, which suspend the entire roof structure. The 56 cables, averaging 404 ft in length, were prestretched and accurately marked for all attachment points at Roebling's plant. This resulted in an easy, economical field erection procedure.

Spectacular new Health and Physical Education Building, Central Washington College of Education at Ellensburg, Washington.
Architect: Ralph Burkhard, A.I.A., Seattle
Structural Engineers: Anderson, Birkeland, Anderson, Tacoma
General Contractor: Earley Construction Company, Tacoma
Prestressed Concrete Fabricator: Concrete Technology Corp., Tacoma

Its 99,500 sq ft of floor space cost $14.15 per sq ft, including architect's fee and 4% sales tax, which is below average for a building of this size.

These basic details are indicative of the wide and varied benefits common to all suspended roof structures. Airline terminals and hangars, plants, gymnasiums, civic auditoriums – all are enjoying the free space afforded by suspended roofs.

Roebling's great experience with steel in tension leads naturally to its active role in the suspended roof field. Our findings, theories and interest in its every phase are offered to you at any time. Should you wish further details on this particular structure, or information of any nature dealing with suspended roofs, please do not hesitate to write Roebling's Bridge Division, Trenton 2, New Jersey.

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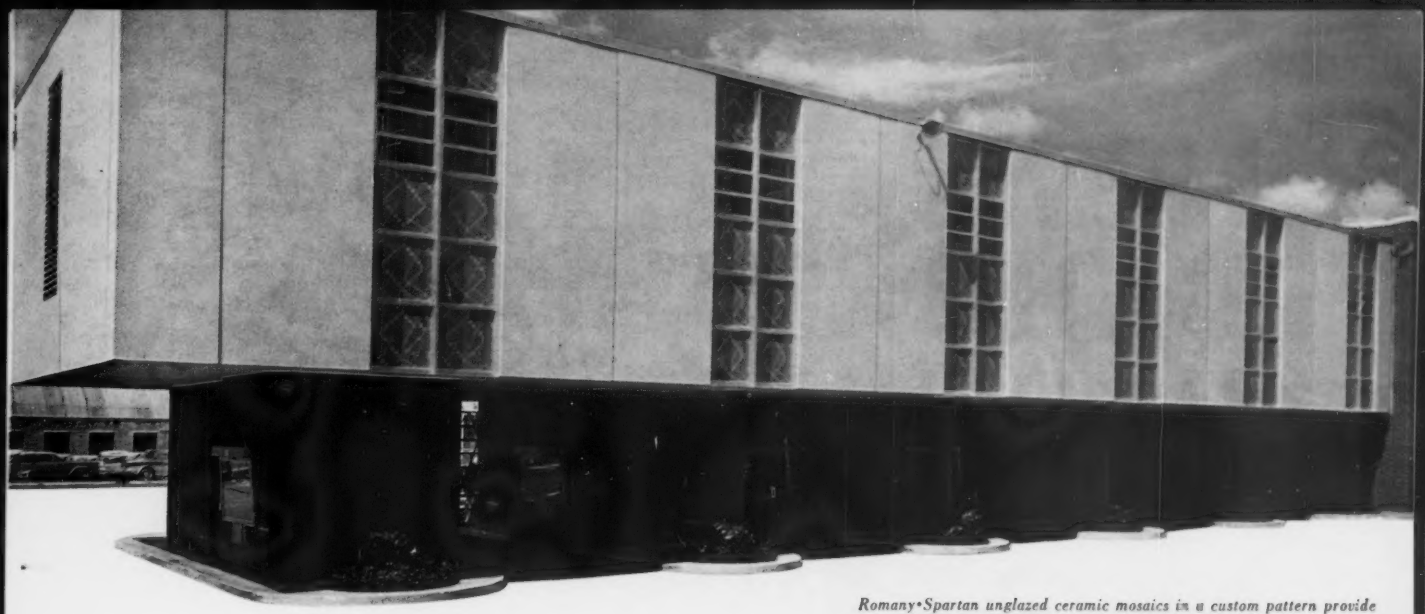

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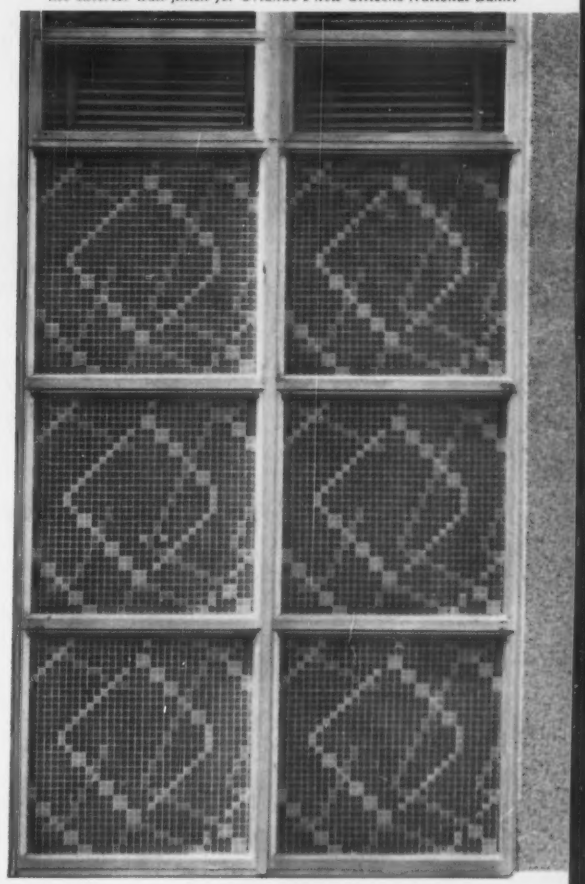

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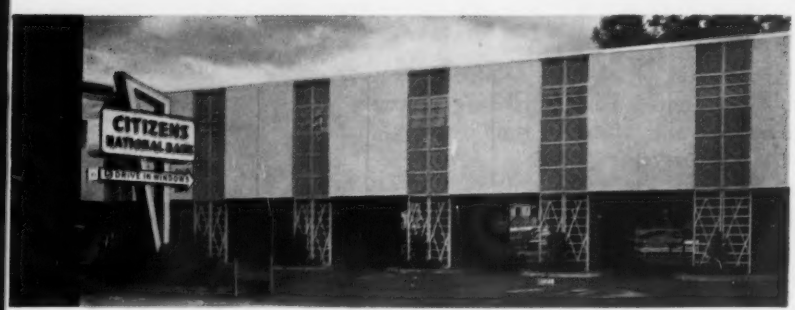

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Architects:
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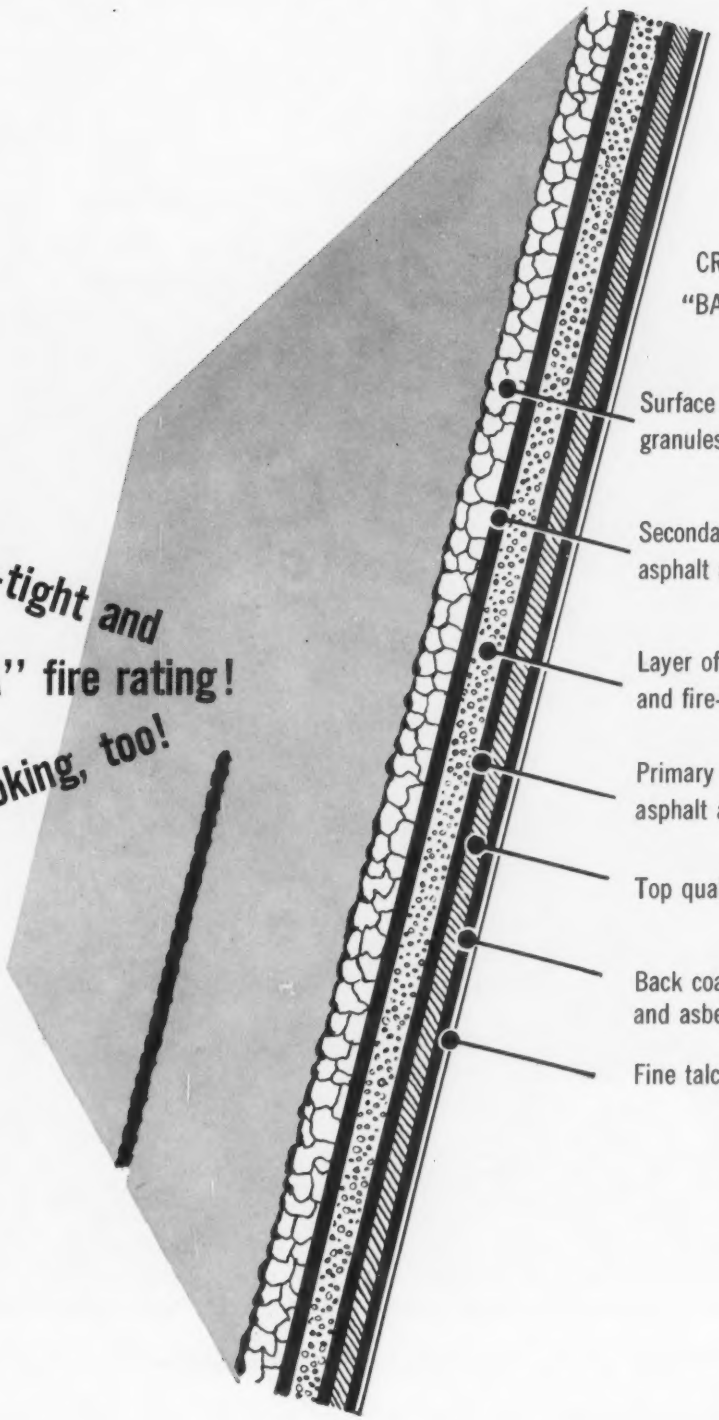

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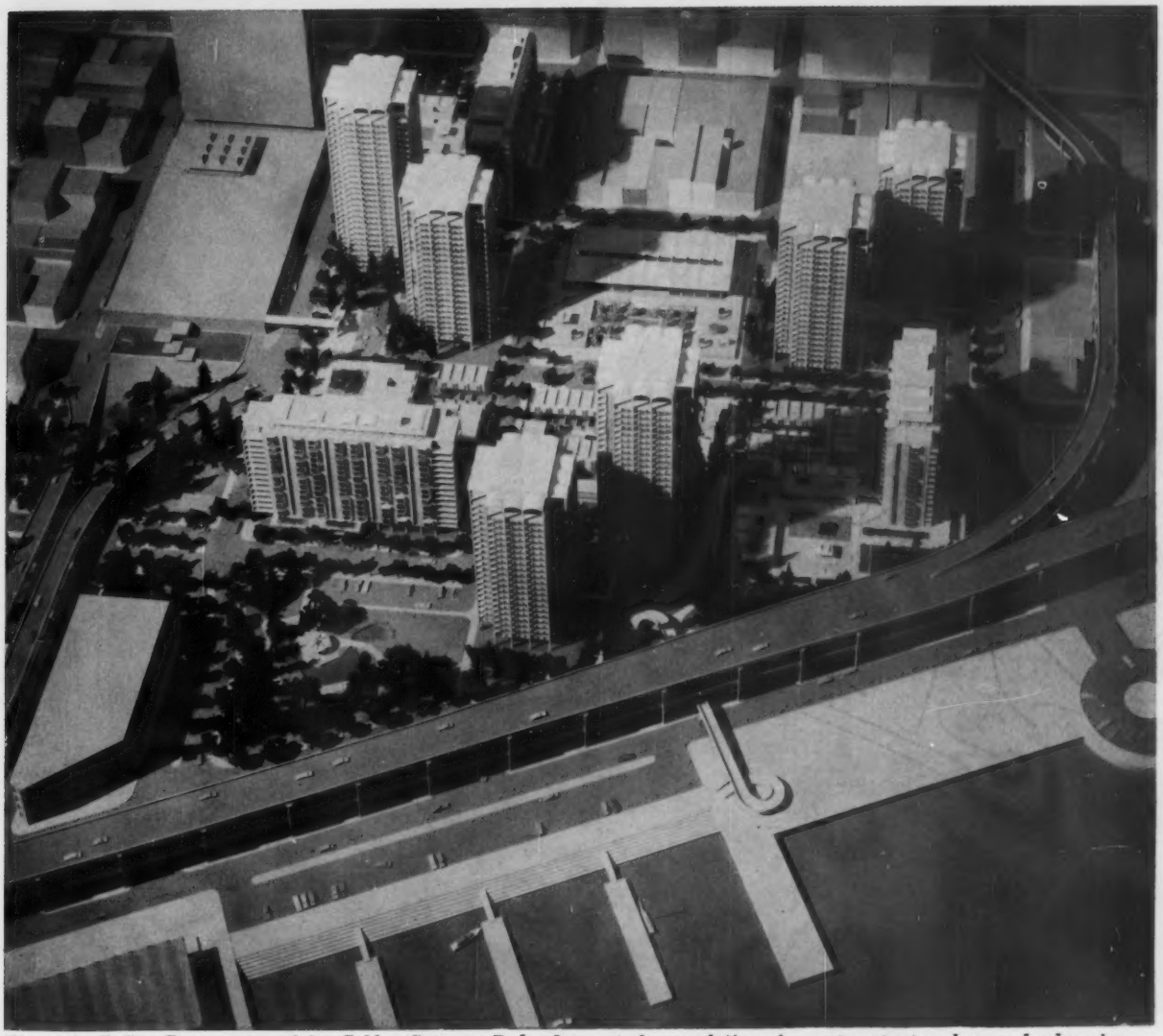
PROGRESSIVE ARCHITECTURE APRIL 1960

NEWS REPORT

Architecture's Monthly News Digest of Buildings and Projects, Personalities, New Products



Warnecke-Dailey-Gruen proposal for Golden Gateway Redevelopment shows relation of apartments, townhouses, landscaping.

79	GOLDEN GATEWAY BAY CITY'S TOP JOB	**86**	BULLETINS
82	MARIN COUNTY CENTER PROCEEDS	**93**	WASHINGTON/FINANCIAL NEWS
83	PERSONALITIES	**107**	PRODUCTS: PROTOTYPE PREFAB
84	BAY AREA PORTFOLIO	**113**	MANUFACTURERS' DATA

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2 to 1

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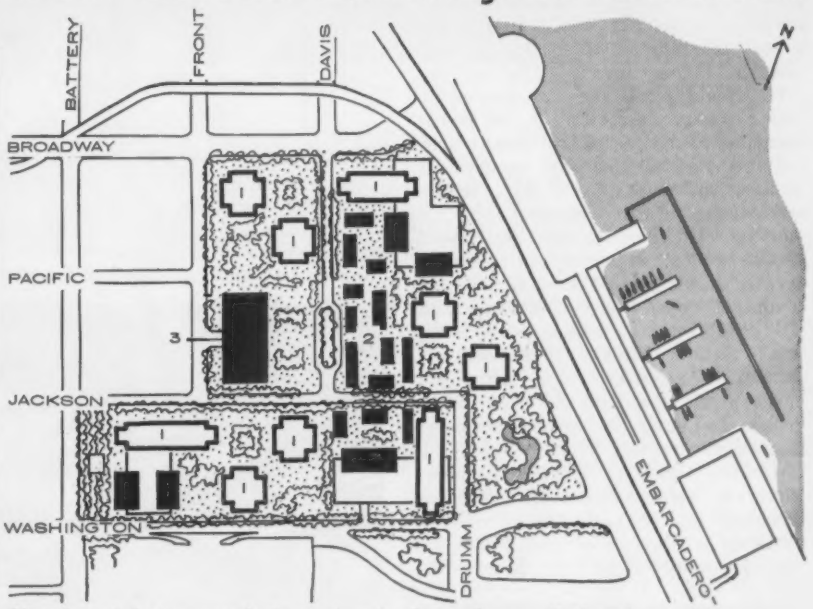
Bay Area Firms Vie for Golden Gateway Commission

Convention City's Largest Project Draws Attention

SAN FRANCISCO, CALIF.—In honor of the AIA Convention this month, this issue of P/A NEWS REPORT is largely devoted to current and future work in the Bay Area. Without doubt, the project which is causing the most excitement here now is the Golden Gateway Redevelopment. This project would replace nine blocks of run-down buildings on the Embarcadero with up-to-date housing. A number of architectural firms, most from San Francisco, prepared detailed proposals for submission last month to the San Francisco City and County Redevelopment Agency. Five of the proposals are shown in these pages.

A distinguished group composed of John Carl Warnecke & Associates, Gardner A. Dailey & Associates, Victor Gruen Associates, Landscape Architect Lawrence Halprin, and Planners Livingston & Blayney, prepared the proposal for Tishman Cahill Renewal Associates *(cover, above, and right)*. The plan provides three groups of high-rise apartments interspersed with courts, plazas, walkways, and town houses. Groups would consist of two tall cruciform towers and a long, "slab" building. Parking would be provided for each inhabitant, and all parking entrances would face outward, leaving the development free for pedestrians. One of the four parking structures would be built beneath the central plaza and shopping area. Formal planting—appropriate for San Francisco—would be used within the development, and natural planting would run along the Embarcadero as

Continued on page 80



Site plan of first proposal: **1** *apartments,* **2** *townhouses,* **3** *shopping-parking.*

Model of Anshen & Allen proposal shows strong massing of four apartment groups.

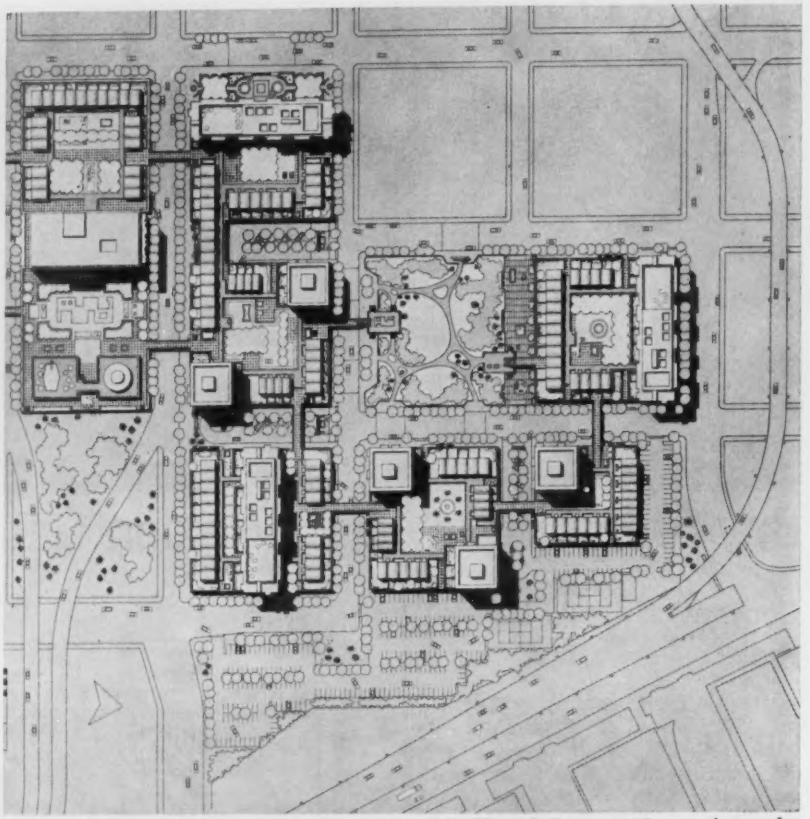
Continued from page 79

a park screening the inhabitants from the expressway.

Home-builder Joseph Eichler, in association with Dinwiddie Construction Company, had a proposal prepared by Anshen & Allen *(bottom, p. 79)*. Their design proposes that Golden Gateway be all high-rise apartments around a large, central plaza. Parking would be underground. Dense planting would screen the area from the expressway.

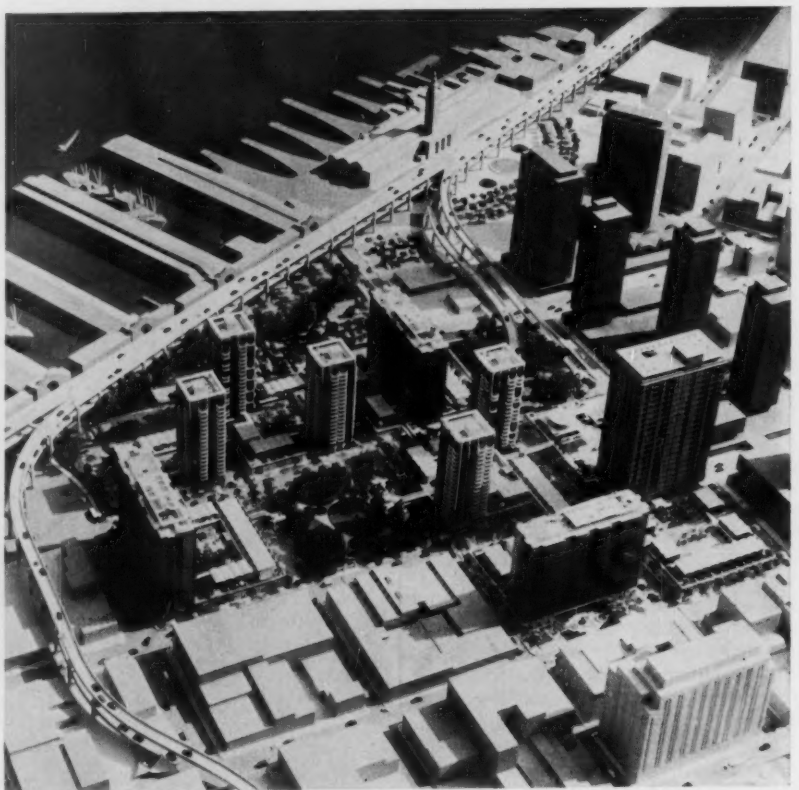
For Perini Land and Development Company, the associated firms of Wurster, Bernardi & Emmons and DeMars & Reay created a proposal *(this page)* which contains not only apartment towers and "maisonettes," but also a 25-story office building and two-story "garden offices." The office tower would be located adjacent to the future Golden Gateway commercial area, second phase of the redevelopment. Apartments would be of two types: 22-story "slab" buildings, and slender 22-story towers. The maisonettes would recall the row houses of San Francisco, according to the architects. Generous recreation areas would include a swimming pool, landscaped courts, coffee shop and bar, tennis courts, and children's playground. One of the centrally located residential blocks would have shopping facilities located on its ground level. Consulting architects are Pietro Belluschi and Milton Schwartz; landscape consultants, Sasaki, Walker & Associates; structural engineer, H. J. Brunnier; mechanical, electrical and traffic engineers, DeLeuw, Cather & Company; acoustical engineer, Walter W. Soroka.

Golden Gateway Center Corporation, a partnership consisting of Edward D. Keil and Architect Nathaniel A. Owings of San Francisco and Developer Lewis E. Kitchen of



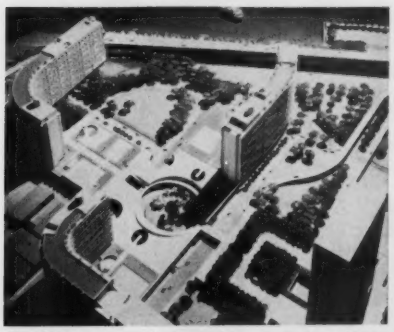
Site plan by Wurster, Bernardi & Emmons and DeMars & Reay—41% open for parks.

Model closeup photo reveals cordial relationship between towers and houses.



Proposal provides gardens for maisonettes, balconies for apartment dwellers.

Skidmore, Owings & Merrill proposal provides three, monolithic, curved apartment buildings; 2575 units would be provided.



Sunken court of shopping area in plaza.

Kansas City, Mo., had plans prepared by the San Francisco office of Skidmore, Owings & Merrill *(above and center)*. This plan provides three 22-story, curved apartments, underground parking, and ten acres of residential parks and courts. Owings states, "I think we have captured some of the Old World qualities of the great cities of Europe such as Bath, England, and the Piazza Navona in Rome." In a separate proposal, the group expects to suggest a high-rise office building to face the central mall of the plan "as an integral part of and complementary to the residential development." All apartments in the curved buildings would have balconies: 75% of them would have views of the Bay, the rest of the city itself. Shopping would be located in a "shoppers circle," to be centrally located where the plazas of each building meet at the beginning of the main mall. Community facilities would include public squares, churches, clubs, tennis courts, restaurants, recreational areas.

Proposal by Welton Becket & Associates mixes commercial, residential, shops.

The proposal *(below)* by Welton Becket & Associates for Kern County Land Company and Del E. Webb Construction Company mixes high-rise apartments with town houses and garden apartments. These elements would be linked by landscaped plazas and pedestrian walks bridging the streets. The central element in the ultimate design is a large mall which would be built over a 1300-car garage. Towering at one end of this mall would be a 30-story steel-frame office building faced with precast stone spandrel panels. The mall would be connected to the residential section by pedestrian bridges. Public facilities to be provided by the developers would include an exhibit pavilion, sculpture garden, library, chapel, little theater, meeting rooms, and recreation areas.

Golden Gateway will, when completed, link with the proposed park redevelopment of the adjacent Ferry Park and Embarcadero areas. In the general superiority of design of its proposals, this project resembles the similar problem of Philadelphia's Society Hill Redevelopment (pp. 36, 37, NOVEMBER 1958, P/A).

Ground Is Broken for Wright's Marin County Center

Administrative Building To Be First Element

MARIN COUNTY, CALIF.—A turn-out of celebrities, including Edward Durell Stone, Olgivanna Lloyd Wright, and state and city military officials, recently participated in groundbreaking ceremonies for first unit of Frank Lloyd Wright's Marin County Government Center.

Commissioned in 1957, the Center eventually will consist of a colony of governmental and cultural buildings and a permanent fairground. The first element to be built is the initial wing of the administration building. This wing will contain the domed county library, board-meeting rooms, office of superintendent of schools, data processing center, and other county offices. Second stage of construction will complete the boomerang-shaped administration building. This section will contain county courts and county jail. Aaron G. Green, architect-in-charge for the job, reports that bids came in under estimate.

Also under way on the hilly, 140-acre site are an armory and a naval reserve meeting hall (both not of Wright's design) and drainage for a 10-acre lagoon on the fair site. In addition, the center will eventually contain a civic auditorium, amphitheater, fair pavilion, post office, senior citizens' center, health and welfare building, olympic-size swimming pool, and a "children's island." They are expected to fill Marin County's need "well into the 21st Century."

Model photo shows arc-shaped administration building, civic auditorium, and, across lagoon, permanent fair facilities.

Administration building, when completed, will span three hills. Construction is of precast, prestressed concrete.

PERSONALITIES

Everything's coming up Moses. Latest star in crown of New York's ROBERT MOSES: he's almost sure to be president of the 1964 World's Fair in New York. At this writing, Moses had not given a definite yes, but all indications pointed to his accepting the post. In that event, he will quit four of his seven major positions: New York City Park Commissioner, Chairman of Mayor's Slum Clearance Committee, Member of New York City Planning Commission, and New York City Construction Co-ordinator. He would continue as Chairman of Power Authority of State of New York, Chairman of State Triborough Bridge and Tunnel Authority, and Chairman of State Council of Parks. Opinion, as always, was divided. Admirers looked forward to a great fair. Others were torn between sorrow that Moses would be in charge of such an international showplace for architecture, and joy that, at last, he would no longer be powerful in city jobs. One architect said, "It's a hell of an expensive way to get rid of him!" A prominent architectural editor, recalling the debacle of the 1893 Chicago Fair, and the sadness it brought Louis Sullivan and his colleagues, wondered if such an insensitive administrator might cause a similar serious setback for mid-century design.

Forty-three AIA members receive their Fellowships this month at the San Francisco convention. Alphabetically, they are: GEORGE EDWARD BEATTY, MARTIN LUTHER BECK, JOHN JOSEPH CAREY, MARIO CIAMPI, GILBERT CODDINGTON, NEIL J. CONVERY, CHARLES F. DAVIS, JR., CHARLES H. DORNBUSCH, LATHROP DOUGLASS, ROBERT A. EYERMAN, O'NEIL FORD, WAYNE HERTZKA, JOHN HUNTER, JR., PAUL R. HUNTER, PERRY B. JOHANSON, A. QUINCY JONES, KENNETH S. KASSLER, BRADLEY P. KIDDER, VINCENT G. KLING, L. BANCEL LAFARGE, GEOFFRY N. LAWFORD, ROBERT M. LITTLE, A. GORDON LORIMER, HAROLD B. MCELDOWNEY, JOHN W. MCLEOD, H. AUGUSTUS O'DELL, JOHN H. PRITCHARD, JOSEPH P. RICHARDSON, LUTAH M. RIGGS, BURTON ROMBERGER, CHESTER O. ROOT, ROBERT W. SCHMERTZ, WALTER SCHOLER, DANIEL SCHWARTZMAN, SOLIS SEIFERTH, WALTER SEVERINGHAUS, CHLOETHIEL W. SMITH, HARVEY P. SMITH, ROBERT FITCH SMITH, HUGH STUBBINS, JR., ROBERT LAW WEED, DAVID R. WILLIAMS, MINORU YAMASAKI. . . . Edward C. Kemper Award will be received by PHILLIP D. GREER. Foreign architects to be made Honorary Fellows are HENRIQUE E. MINDLIN, Brazil; SANTIAGO AGURTO CALVO, Peru; ROBIN BOYD, Australia; JOSE GNECCOFALLON, Colombia; and HIDEO FUTAMI, Japan. Non-architects to receive Honorary Memberships are DR. SHIRLEY COOPER, Assistant Executive Secretary of School Administrators; JAMES H. DOUGLAS, Deputy Secretary of Defense; RAYMOND R. TUCKER, Mayor of St. Louis; and Sir LESLIE MONRO of New Zealand, Ambassador to the United States and permanent representative to the United Nations. GEORGE MCCUE, *St. Louis Post-Dispatch*, and GRADY CLAY, writing in *Horizon*, won the top awards (in the newspaper and magazine categories, respectively) in AIA's 7th Annual Journalism Awards Competition. Second prizes went to JAMES BRITTON, writing in *San Diego and Point* magazine, and BROOKS MARTIN, AIA, for articles in San Antonio's English-Spanish newspaper, *La Prensa*. Certificates of Merit were received by *Time*, *The Nation*, and ROBERT J. LEWIS, for urban renewal articles in *The Washington Star*. Jury was composed of THOMAS H. CREIGHTON, P/A Editor, JOSEPH WATTERSON, *AIA Journal* Editor, and KEN SIMENDINGER, ex-reporter.

Scheduled to inherit the mantle of MORRIS KETCHUM as president of the Architectural League of New York is ROBERT W. CUTLER, partner in Skidmore, Owings & Merrill. Cutler comes to this job with a background of organizational leadership, having served as president of the New York Chapter, AIA. His numerous organization activities also include duty as a vice-president and director of Building Research Institute, trustee of Community Service Society, director of Fifth Avenue Association, and member of Art Commission of City of New York, New York Building Congress, and American Hospital Association. He was partner-in-charge of the recently-opened Pepsi-Cola building in New York. One wonders how he found the time!

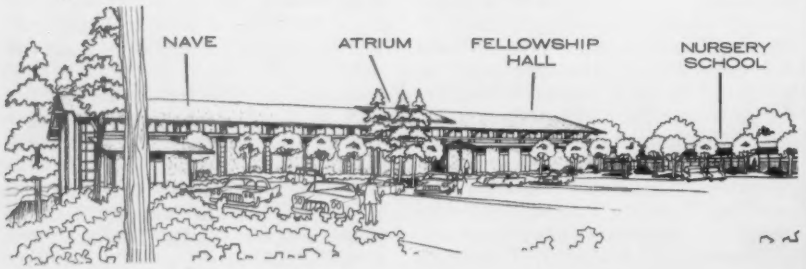
RICHARD NEUTRA won first place in competition for design of new Municipal Theater in Duesseldorf, Germany . . . . Royal Gold Medal of Architecture for 1960 was awarded to PIER LUIGI NERVI on recommendation of Royal Institute of British Architects; QUEEN ELIZABETH made the presentation . . . . WAYNE S. HERTZKA is 1960 president of California Council of AIA . . . . New president of Oregon chapter AIA is KEITH R. MAGUIRE . . . . Architectural winners of 1960-61 Rome Prize Fellowships are ROYSTON T. DALEY, Boston, MICHAEL GRAVES, New York, Mrs. ASTRA ZARINA HANER, Birmingham, Mich., and WAYNE TAYLOR, Maple, N. C. . . . E. J. TANGREDI, formerly chief construction engineer for Webb & Knapp, is now director of monumental and general construction sales for Reynolds Metals Company.

Good news for architects entering the Franklin Delano Roosevelt Memorial Competition is that its Professional Advisor will be EDMUND N. BACON, Executive Director of Philadelphia's City Planning Commission. A graduate architect (Cornell, '32), Ed Bacon has proved in Philadelphia that it is possible to have architects, city planners, city officials, and money interests work together and produce good architecture. Site of the Memorial will be a small peninsula of West Potomac Park between the Lincoln and Jefferson Memorials. Six finalists will be selected by the jury from the first phase of the competition, which is open to all registered architects. These finalists will receive $10,000. Winner of the second stage will receive $50,000. Registration must be made by April 25. Address: Edmund N. Bacon, Professional Advisor, Franklin Delano Roosevelt Memorial Competition, Room 108, Tariff Commission Building, 7th and E Streets, Washington 25, D. C.

The Ford Foundation announced grants to eight architect teams for research in theater design. They are: PAUL RUDOLPH/RALPH ALSWANG, EDWARD DURELL STONE/ELDON ELDER, SETH HILLER/BARRIE GREENBIE, PETER BLAKE/DAVID HAYS, PAUL SCHWEIKHER/GEORGE C. IZENOUR, FREDERICK J. KEISLER, EDWARD L. BARNES/JO MIELZINER, and BEN SCHLANGER/DONALD OENSLAGER.

Sketches by Ramiro Cobelletty.

BAY AREA PORTFOLIO

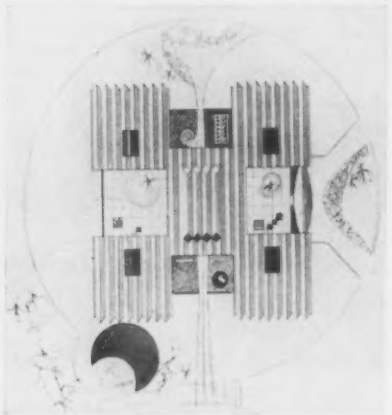


Church Is Fine Example of Bay Area Style

The First Unitarian Church of Berkeley, Calif., by Wurster, Bernardi & Emmons, will be a notable specimen of the "Bay Area" style. The church will consist of three elements: nave, atrium, and fellowship hall. Since the hilltop site is windy, the atrium will be a skylighted, planted, meeting place. Construction will be pre-cast concrete with exposed aggregate finish; sheathing and trusses to be stained in a variety of colors. Landscape Architect, Lawrence Halprin; Structural Engineer, William B. Gilbert & Associates; and Mechanical Engineer, G. L. Gendler & Associates.

"Pavilion" School Will Be Child-Scale

Fernando Rivera Elementary School, designed by new AIA Fellow Mario J. Ciampi for Daly City, Calif., will provide educational facilities for youngsters in kindergarten through the sixth grade. The school, with its unique folded-plate, plywood roof, will



be enclosed in a circular wall with irregularly-shaped entrances which will provide some adventure for children "creeping like snails unwillingly to school." The classroom and administrative units will face inward upon landscaped courts, providing a diminutive scale. Skylights provide daylighting in interior patios. Central room will be used for dining and interior play area during inclement weather. Outdoor play areas are provided on paved courts between wings.

Fairmont Addition to Out-top Mark Top

San Francisco's proposed Fairmont Hotel addition, consisting of 22-story tower combined with 7-story base building, will provide Nob Hill visitors with highest view of Bay Area. Addition is said to be tallest structure built in San Francisco in last 30 years, out-topping Top of Mark across street.

Twenty-two story tower will rise from block-long base structure. First floor of tower will connect with main lobby and contain garden and chapel. Scenic lounge at top will be reached directly by exterior elevator with all-glass front, providing view of Bay. At night elevator will move in shaft of light created by indirect lighting. Architect: Mario Gaidano.

Parking, Shopping Will Be Integrated in Bay City

Project to be located in the heart of San Francisco's shopping district will combine 1000-car parking facilities and luxury shops. Each floor will be open except for vertical, corner strip which will contain double-spiral ramp. This area will be covered by a panel system to cut down sun glare. Elevators will serve all parking floors. Perimeter of building will contain shops sharing marquee, forming a protected pedestrian arcade. Architect John Lord King set building back to form a turning lane for cars entering garage; trees lining sidewalk provide screen between traffic and pedestrians. Consulting Engineers: John J. Gould and Henry Degenkolb.

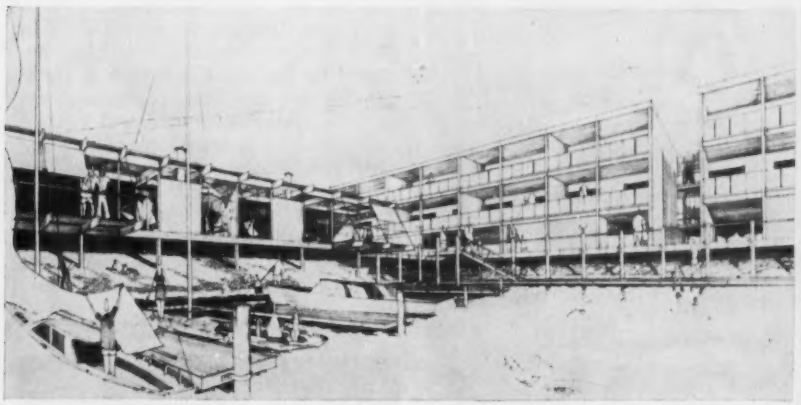
Concrete Arches Mark Mortuary Project

Sunset View Cemetery Mortuary, Berkeley, Calif., designed by Corlett & Spackman, will consist of chapel, arrangement rooms, casket display area, slumber rooms, office area, and crematory. The central element will be roofed with a series of five lofty, concrete arches. The arch form is to be repeated in the concrete supports of the building, which will bridge a small gully. The chapel will be entered over a bridge, connecting with the main building. Its framework is

to be prestressed concrete; and it is to be supported by arches echoing those of the façade. Access will be by a "flying" automobile ramp over a reflecting pool which will mirror the main façade. Quite a change of pace for co-architects of Winter Olympics!

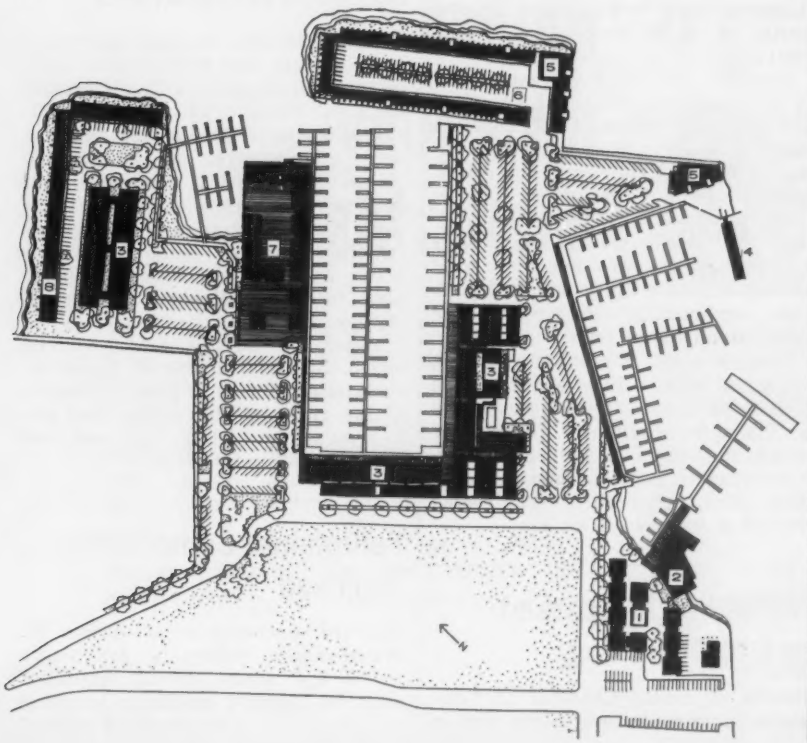
Two Pre-Quake Buildings Restored in San Francisco

Two buildings which survived San Francisco's earthquake and fire of 1906 have been lovingly restored by a local architect, Bruce Heiser. Located in the city's formerly-notorious International Settlement, 722-728 Montgomery Street flaunts scarlet drapery, red wallpaper, gilt-plaster ceilings, and crystal chandeliers as in the old days. Buildings are now the offices of Attorney Melvin M. Belli. Nearby is Jackson Square, center of interior-design trade.



Boatel/Marina Project Set for Sausalito

A boatel/marina/restaurant/fishing center designed by Roger Lee Associates, Berkeley, for Clipper Yacht Company in Sausalito, Calif., will have, in Lee's words, "a woodsy, weatherbeaten, salty, and breezy" atmosphere. The units, to be built partly on landfill and partly on piles and platforms, will include (1) a sports-fishing center, (2) coffee shop, (3) boatel apartments, (4) fueling dock, (5) restaurant, (6) individual boatel units, (7) boardwalk shops, and (8) boatel cabanas. The center will have 386 private boat berths and a pier for salmon-party boats. Parking for 519 cars will be provided on the 33-acre site, with parking spaces broken up by landscaping, walls, and greenways.



Student Housing to Occupy Eucalyptus Grove

On-campus apartments planned for married interns and residents at University of California Medical Center, San Francisco, will be on a wooded, sloping, 25½-acre site located in the heart of the city. Preservation of natural beauty will be achieved through a scheme of eight 2-story buildings and 2½-story buildings (the latter of which will be adapted to steep slopes by developing half a floor at lower-side grade). Apartments will be connected by a simple road system, creating two open park areas. The architects state that: "Character of project should be residential, tempered by its academic (but not institutional) nature and disciplined (but not regimented) because of the repetition of its similar units."

Apartments will be constructed of wood frames on concrete foundation. Side walls will be surfaced with colored stucco; end walls, with stained-redwood board-and-batten. Architects: Harvey Parke Clark, John F. Beuttler, and George T. Rockrise.

Continued on page 86

Continued from page 85

Problems for Piccadilly; Money for Grand Central

Revealing sidelight on the plans to uglify London's Piccadilly Circus (p. 54, JANUARY 1960 P/A): according to *The Spectator*, a British magazine, in an article titled "The Monster of Piccadilly Circus," the make-up of Cotton, Ballard & Blow, credited as architects of the project, is worthy of note—"The Cotton of the firm is . . . Mr. Jack Cotton [a real estate developer]; he has no architectural qualifications. The Blow is a Registered (not Chartered) Architect. The Ballard is dead." The magazine notes —"There are consultants; but whatever improvements consultants may make to a building, if it is fundamentally a bad building it will remain a bad building." Interestingly enough, Jack Cotton is head of the British firm which has invested $25 millions in the development of New York's Grand Central City blockbuster (Architects, Emery Roth & Sons; Consulting Architects, Walter Gropius and Pietro Belluschi).

Giants' Stadium Opens in San Francisco

New Candlestick Park Stadium in San Francisco, adaptable for football games, pageants, and other large-scale outdoor brouhaha, serves primarily as home field for the San Francisco Giants. Stadium is pear-shaped structure, composed of three decks: lower tier, loge, upper tier. Upper tier extends forward, roofing loge tier and last 20 rows of lower tier. Concrete shell baffle, for wind protection, is placed at rear of upper tier. The stadium is constructed of reinforced concrete: is said to be the first major league baseball stadium to be built entirely of this material. It is cradled in the slope of Bay View Hill, the crest of which overlooks the playing field. A landscaped strip 50 to 100 ft wide surrounds stadium area and parking facilities are provided on three sides. John S. Bolles, Architect, and E. Elmore Hutchinson, Engineer, both of San Francisco, were associated.

Giant New Control Tower Aids Air Safety at Newark

Newark Airport Control Tower, 150-feet high, built by the Port of New York Authority, has recently been completed. Located near the center of the 2300-acre airport, the tower provides Federal Aviation Agency controllers with best possible view of runways, taxiways, and ramp areas. It houses more than a million dollars' worth of most modern electronic equipment.

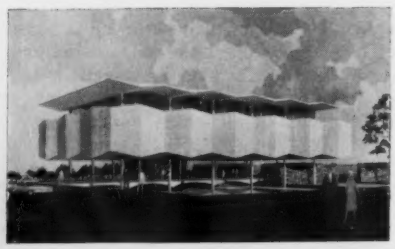
Circular ground floor, measuring 78 ft in diameter, contains FAA offices and building utilities; 117-ft concrete shaft rises from base of tower, enclosing elevator, stairways, and equipment conduits. Three floors at top, cantilevered out to 37-ft overhang, include air traffic control equipment. Above this are control tower cab with surface detection equipment, and 17-ft globe—or "radome"—to protect radar antennae on top of tower.

Present tower is fourth in 31-year history of airport. First structure was 25-ft wooden tower with signal lights as its only equipment. Successive towers measured 35 and 65 ft high.

Architect was A. Gordon Lorimer, New York; Structural Engineers: Strobel & Rongved, New York.

Dallas Plazas Sparked by C of C Building

Efforts of Dallas Chamber of Commerce to promote open plaza plan in



Downtown Dallas area are realized in plans for its own new building, designed by Harwood K. Smith & Partners. Entire first floor of three-story, concrete-frame structure will consist of landscaped entrance plaza opening onto busy downtown area. Top two stories of building will be constructed of precast concrete and marble wall units raised above open first floor. Chamber of Commerce will use space for its executive and general offices.

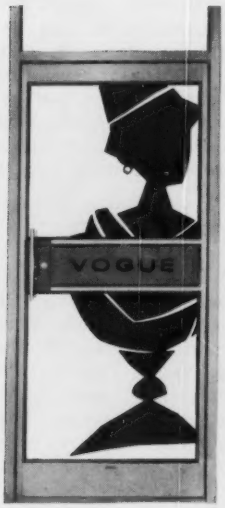
California Designer Receives Home Award

David B. Whittet receives first prize for his house plan in Roseville, Calif. in *Parents' Magazine*'s Tenth Annual Builders' Competition. The competition considered homes for families with children, stressing planning for children's activities, storage space, facilities for housework, home expansion, exterior design, and economy in building. Winning design allows as many as eight variations of basic plan to suit individual preference. Garage and entry locations may be changed and fourth bedroom may be added. Special features of house include close relationship of kitchen to dining area, laundry center that can be shut off by folding door, and rear yard for children's play.

Fellowship, Competition, Job Lead

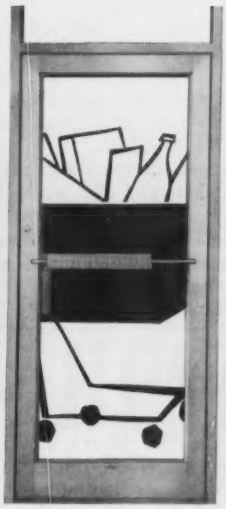
Harvard announces annual Arthur W. Wheelwright Fellowship for year's travel and study abroad. Applicant must be Harvard graduate; practical

Continued on page 88



For atmosphere (jewelry stores, clothing stores, specialty shops) or prestige (banks, stores) with high strength—the **Style Leader 125.**

For normal to heavy traffic flow (stores, office buildings)—the **Narrow Stile 188.**



For extra heavy, abusive traffic flow (supermarkets, schools)—the **Extra Duty 350.**

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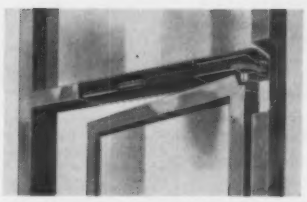

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Continued from page 86
experience and promise of professional achievement are looked for. Address: Committee on Scholarships and Awards, Harvard Graduate School of Design, Robinson Hall, Cambridge, Mass. . . . Trinity College, Dublin, announces international competition for design of $1,400,000 addition to existing 18th Century library. Judges, who will search for superior contemporary design, are: Sir Hugh Casson, Royal College of Art, London; Franco Albini, Professor of Architecture at Venice; and Raymond McGrath, Principal Architect of Dublin's Office of Public Works. The jury will be under chairmanship of Lord Rosse, Vice-Chancellor of Trinity. Further information from: American Council for Trinity College, Dublin, 53 East 93rd Street, New York 28, N.Y. . . . Government of Pakistan asked AIA to suggest names of qualified firms to assist with design and planning of that country's proposed new capital. Applicants must have done work in that area, must have experience in town planning and working with governments, and must be able to assemble sufficient force to handle job. Send brochures and resumes to: The American Institute of Architects, 1735 New York Ave., N.W., Washington 6, D.C.

CALENDAR

Church Design & Building Conference, Chicago, April 19-21 . . . . National Convention of Construction Specifications Institute, Palo Alto, Calif., April 25-27 (after AIA's San Francisco Convention) . . . . National Association of Architectural Metal Manufacturers Convention, May 1-7, Boca Raton, Fla. . . . Society of Architectural Historians tour to Vicenza, Italy, to see work of Palladio, May 6-14 (contact Daniel M. C. Hopping, 120 Midland Ave., Bronxville 8, N.Y.)

Harvard Announces Degrees In Urban Design

Dean José Luis Sert of Harvard Graduate School of Design has announced that, beginning with the 1960-61 academic year, the School will offer to selected candidates a series of courses and seminars in urban design. Student must possess one of the School's first professional degrees: B. Arch., M. L. A., or M. C. P. Program will consist of three elements: Studio Course in Urban Design, Seminar on Factors that Shape the City, and Seminar on Shaping of Urban Space. Students will also participate in the Urban Design Conference in Spring, 1961. Inquiries to: Committee on Admissions, Graduate School of Design, Robinson Hall, Harvard University, Cambridge 38, Mass.

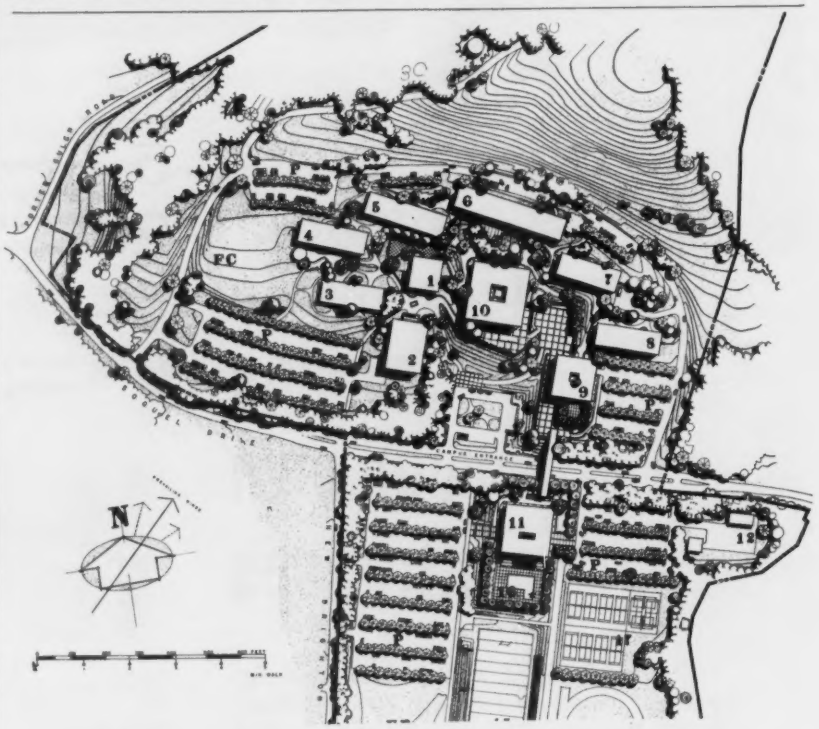
Also from Harvard comes word that the President and Fellows of Harvard College have accepted the late Bernard Berenson's bequest of his villa, I Tatti, near Florence, as a center for humanistic studies.

OBITUARIES

ROBERT CARSON, FAIA, died in Palm Beach, Fla., on March 1. He was a partner in Carson & Lundin, noted for design of high-rise office buildings. Graduated from University of Pennsylvania in 1928, he worked in the offices of Raymond Hood and Harrison & Fouilhoux before joining Earl H. Lundin in the present firm in 1939. . . . ADRIANO OLIVETTI, Italian business-machines manufacturer, died February 29. He was widely known as a design-conscious patron who commissioned many architects, sculptors, painters, craftsmen, and industrial designers to produce superior work.

AIA Cites Organizations

The Providence (R. I.) City Plan Commission, General Motors Corporation, and International Business Machines Corporation receive "Citations to Organizations" from AIA at the San Francisco convention. Plans for renewal of an historic area caused the award to Providence; excellence of General Motors Technical Center by Saarinen was the reason for citing that company; and IBM's consistent encouragement of good architecture in its buildings came in for praise.



Junior College Master Plan Excludes Automobiles

The design by Ernest J. Kump and Masten, Hurd & Gwathmey, Palo Alto, for the all-new Cabrillo College in Santa Cruz County, Calif., is divided into academic and student activity areas. Academic elements will include (1) administration; (2) music-speech; (3) English, languages, art, home economics; (4) future classroom buildings; (5) business and social science; (6) mathematics and science; (7) engineering and technology; (8) future classroom building; (9) student center; (10) library and study area. Physical education area, past the gymnasium (11), will include track, baseball, and football fields, pool, and volleyball and tennis courts.

A similar college, Kump's P/A Award-winning Foothill College in Los Altos Hills, Calif., will have its groundbreaking on April 20. Kump has invited AIA Convention visitors.

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Open stair well leading down to amusement room adds to spacious effect created by the cathedral ceiling. Entire character of home has been kept simple, encouraging modern, informal living.

Feeling of spaciousness is achieved by high ceiling with exposed beams. Ease of maintenance was a factor in the choice of painted brick, wood paneling and pre-finished ceiling of Insulite Roof Deck.

The residence of Mr. and Mrs. R. E. Wilson
in the exclusive Smoke Rise area near Butler, New Jersey.
Design and specifications by E. William Thun, A. I. A.,
Thun and Thornberg, Architects, Basking Ridge, New Jersey.

Beauty, economy of Insulite Roof Deck contribute interest to this home

Architect E. William Thun created this outstanding home with its many features designed to add to livability and distinction. A spacious, open feeling is achieved by the exposed beam ceiling. The dark stained beams provide an attractive contrast against the striking white ceiling of Insulite Roof Deck.

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For technical data and literature showing Insulite Roof Deck in many other homes and commerical buildings, write Insulite, Minneapolis 2, Minnesota.

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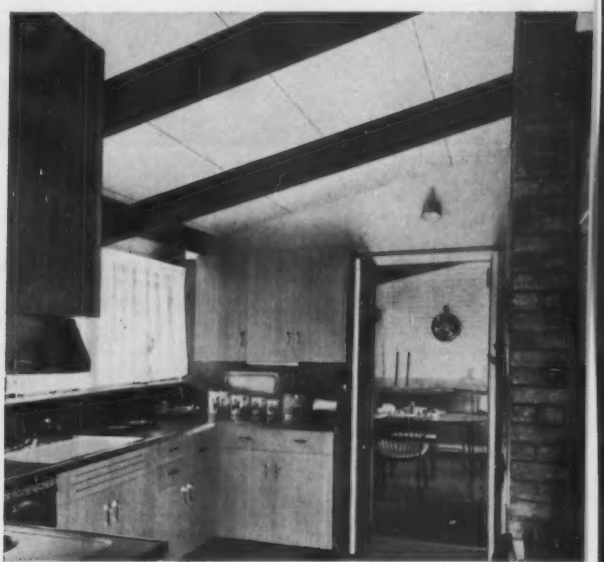
Graceful transition from interior to outdoor balcony is achieved by continuation of exposed beams and Insulite Roof Deck. Careful site-planning takes full advantage of steep slope and beautiful view.



Designed for convenience, the kitchen area combines utility with beauty and charm. The Insulite Roof Deck is easy-to-clean, provides a pleasing contrast with the texture of the used brick surface.

code changes increase the importance of 20 ampere wiring devices—

20 Ampere wiring devices take on added importance due to changes in wiring specifications in the 1959 Revision of the National Electrical Code. For instance, the newly revised code requires that "Only grounding type outlets shall be installed in laundry rooms, open porches, breezeways, basements, cellars, work shops, garages . . ." (See Article 210-22)

Arrow-Hart offers you 20 ampere, 125 volt duplex grounding receptacles and caps for such locations. They meet the rapidly growing need for 20 ampere, 125 volt circuits required by heavier rated appliances in homes, and the heavier rated electrically operated equipment in commercial buildings. (See Article 210-21)

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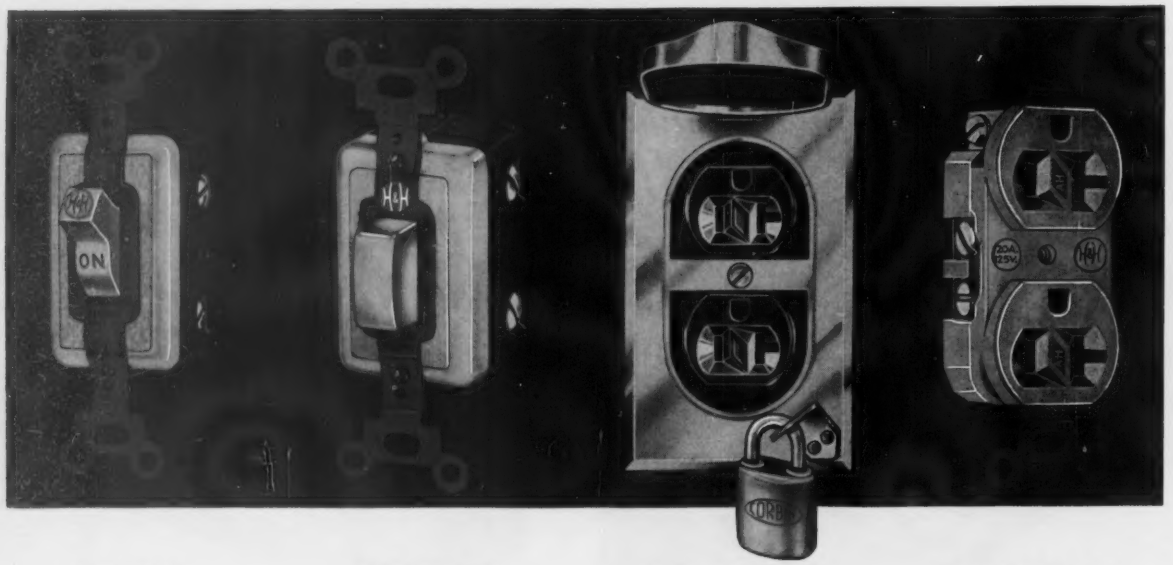

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Quiette Tap-Action Switch 2991-I
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20 amp., 125 v.

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20 amp., 125 v.

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Architects Lose a Battle on Capitol Hill

Indian Affairs Approves Plan Standardization

By E. E. Halmos, Jr.

Architects have lost — and rather badly at that—in their first battle in the growing Washington war on professionals (see MARCH WASHINGTON / FINANCIAL P/A).

As you know, AIA went to bat with some of its heaviest hitters early in February, to protest against policies of the Bureau of Indian Affairs which are aimed at halting all work by outside architectural firms on the several million dollars worth of buildings the Bureau builds each year.

The result was a complete strike-out. The House Appropriations Committee ended its hearings (and endorsed appropriations) by commending the Bureau for its efforts toward standardization of plans, urging still further standardization and some further cuts in Bureau engineering and architectural staffs, next year.

Worse yet, in the eyes of many observers, was the content of a report on standardized architectural plans, proudly submitted by the Bureau to show what it had done to save construction costs. This included such items as:

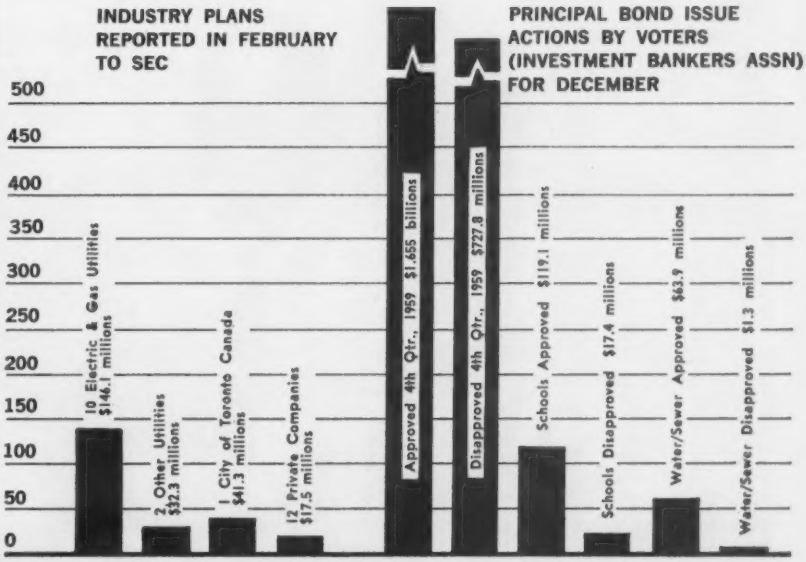
1 Omission of multipurpose rooms, and outside open or covered surfaced play areas;
2 Reduction of dormitory space from 148 to 121 square feet per child;
3 Reduction of average space per child in school buildings from 64 to 45 square feet;
4 A finding that "conventional type" construction (exterior and interior masonry walls, paint finish, open-web steel joists exposed, etc.) has been found to be most economical.

Significantly, the Bureau reported that "any further reduction of floor area per student would result in substandard facilities."

On the battlefront where most of the skirmishes have been fought so far—concerning civil engineers and the Interstate Highway program—no major battle has yet been lost, and the professional societies were still bringing up heavy guns to defend the positions of their members.

But certainly, skirmishes were being lost for lack of information. A good example was an article in local Washington newspapers, showing that the District of Columbia has so far spent something over $8 millions for consulting engineering fees on its highway program.

Standing alone, that figure looms very large—to Congress and the general public. The fact that the $8 millions produced plans and specifications for something over $183 millions of work under way or planned wasn't mentioned.



BOND ELECTION RESULTS—DECEMBER 1959 By Use of Proceeds

USE OF PROCEEDS	APPROVED		DISAPPROVED	
	AMOUNT	NO.	AMOUNT	NO.
Education:				
Elem. & Sec.	$119,141,000	75	$17,359,000	25
Water & Sewer	63,939,000	20	1,583,000	6
Health & Welfare	400,000	1	800,000	1
Recreation	385,000	3	1,000,000	1
Ports & Airports		0	1,637,000	3
Industrial	150,000	1	425,000	1
Administrative & Office Bldg.	185,000	1	50,000	1
Unclassified	760,000	4	2,170,000	5
Totals	$186,755,000	112	$26,630,000	47

BOND ELECTIONS SCHEDULED As of January 1, 1960

MONTH	AMOUNT
January	$ 24,992,000
February	34,677,000
March	8,841,000
April	26,960,000
May	44,535,000
November	26,685,000
No Date Set	4,539,000
Total	$171,229,000

USE OF PROCEEDS	AMOUNT
Education:	
Elem. & Sec.	$ 59,826,000
Other	500,000
Roads & Bridges	42,200,000
Water & Sewer	17,170,000
Health & Welfare	23,914,000
Recreation	6,729,000
Ports & Airports	900,000
Industrial	300,000
Administrative & Office Bldg.	1,060,000
Unclassified	18,630,000
Total	$171,229,000

To the Barricades

Architects—particularly those who accept supervision options in addition to design work—have a major interest in a group of bills now grinding through the House Committee on Education and Labor which would have

Continued on page 98

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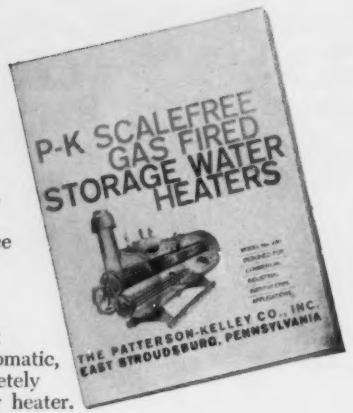

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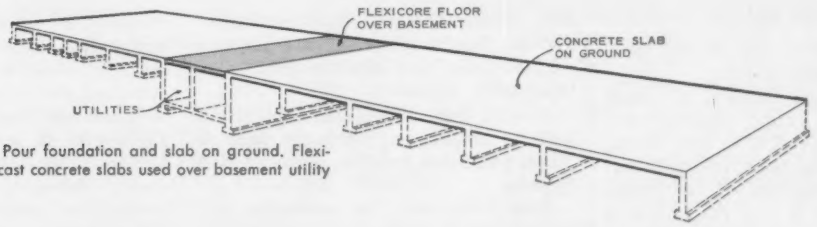
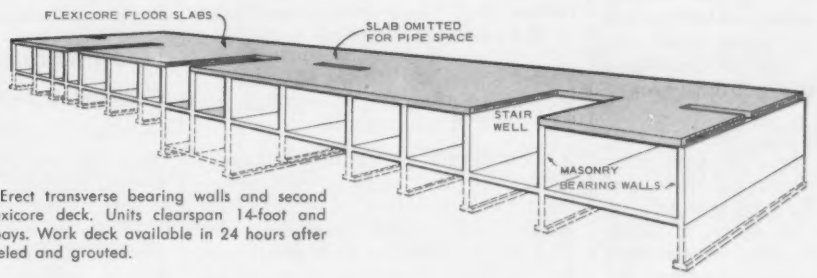
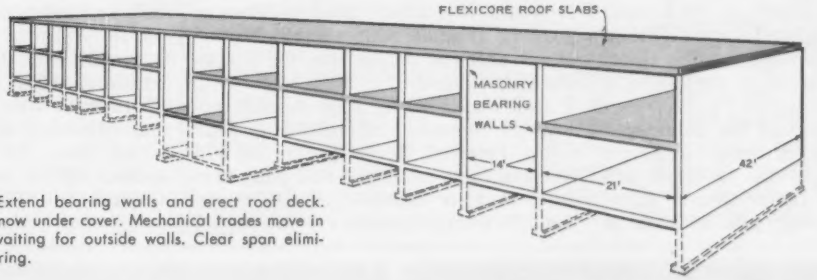


STEP 1. Pour foundation and slab on ground. Flexicore precast concrete slabs used over basement utility rooms.



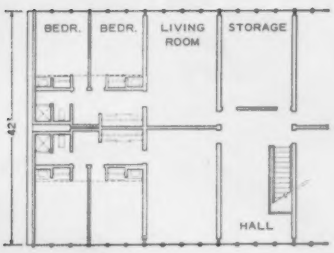
STEP 2. Erect transverse bearing walls and second floor Flexicore deck. Units clearspan 14-foot and 21-foot bays. Work deck available in 24 hours after slabs leveled and grouted.



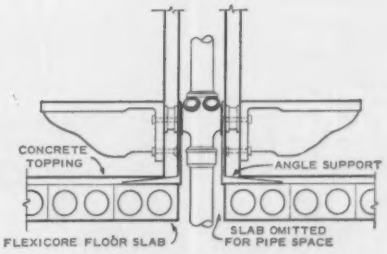
STEP 3. Extend bearing walls and erect roof deck. Building now under cover. Mechanical trades move in without waiting for outside walls. Clear span eliminates shoring.

Skidmore, Owings and Merrill, Architects—Engineers

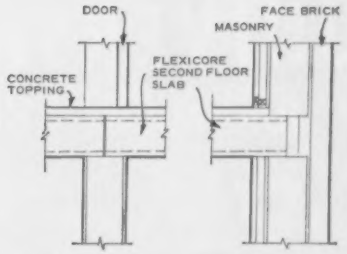
How Air Force Academy Got New Buildings Under Cover Quickly



TYPICAL PLAN SECOND FLOOR



DETAIL—PIPE SHAFT



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PRECAST CONCRETE DECKS

Continued from page 93

the effect of permitting on-site picketing on construction jobs.

There's a whole handful of these measures now being considered—*S 2643, HR 9070, HR 9175* and others. Only 18 lines long, most of them aim at changing a section of the Taft-Hartley (Section 8 [b] [4])—and a Supreme Court decision (the Denver Building Trades case)—which places strikes against one construction employer into the class of secondary boycotts, if pickets are thrown around the whole job.

Supported heartily by AFL-CIO building trades, the bills have been opposed by manufacturing, civic, and construction trades employer groups.

But, reflecting the extent of public lack of knowledge about construction operations, read this statement by Congressman Don Magnuson, a committee member from Washington:

"The right to picket . . . is a basic principle of our labor laws. . . . Union members in the building trades, alone, do not have the same . . . privileges. I think this is wrong. . . ."

And another part of the industry—this time building materials suppliers—will find itself the probably unhappy center of Congressional attention later this year, just as soon as Sen. Kefauver's anti-trust and anti-monopoly subcommittee gets through with its hearings into the drug manufacturing industry.

Special focus of Kefauver's probe will be pricing on products such as glass, plumbing fixtures, asbestos, and gypsum.

Said Kefauver: The committee will be seeking to develop the competitive picture that "does or does not" exist in the materials industry.

Tax Notes

A tax break for self-employed, through deductions for self-financed retirement plans, is still a possibility. The House last session passed a bill (*HR 10*) authorizing such deductions, and it's been bottled up in the Senate Finance Committee ever since, in partial deference to Treasury's plea that it would lose about $365 millions a year in revenue. But there'll be another effort to bring the bill out to the Senate floor.

And remember to keep careful records of business expenses this year—the Internal Revenue Service will demand them when you and your firm turn in your income tax returns in 1961. It works this way: if you are an employe or an officer of a firm that requires you to account for expense account items, you needn't submit an itemized statement next year. But IRS will demand that you maintain a careful record to support your claim for tax-free treatment of such expense items. Reason: IRS has long contended that many "expense accounts" are in reality "fringe benefits" or income, wants to drive that point home.

Throw Mama Out of the Window a Bomb

Big office buildings would be safer than the average home—from 10 to several hundred times safer—in relation to atomic fallout.

That's the conclusion of the Atomic Energy Commission, after it conducted exhaustive radiation tests on its own huge headquarters building at Germantown, Md. (The test assumed that the burst in an attack would be too far away to break windows.)

In the least-protected part of the building, AEC found that shielding provided by windows, walls, partitions and furniture was at least 10 times better than in the average frame house, where the radiation coming through the walls would be reduced only about a third from what it was

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outside. (Windows in the AEC building were considered least-protected, but even there, radiation was reduced by one-thirtieth.)

Tests were conducted by draping the big building in something over a mile of plastic hose, then pushing a slug of cobalt-60 through it by water pressure, measuring radiation that came through the walls to instruments inside.

More Education Money

Efforts to improve teaching of scientific and mathematical subjects in U.S. schools were making some progress, apparently, in midwinter. Progress from a money standpoint, anyway.

The National Science Foundation, for instance, announced that it was making funds available to finance attendance of some 18,000 high school and college teachers of science, mathematics and engineering at 379 NSF-sponsored summer institutes. The program involves grants totaling more than $21 millions.

And the Office of Education of the Department of Health, Education and Welfare said it has thus far (since the beginning of Fiscal Year 1959) made a total of $79.4 millions available to elementary and secondary schools to improve teaching of science, mathematics and foreign languages. A very large percentage of the money, so far, has gone into improving laboratory and other teaching facilities.

Housing Health

The health of the housing segment of the construction industry continued to be a matter of concern in the Capital, though there was some evidence that the patient was either recovering slightly—or hadn't been quite as sick as at first diagnosed.

For instance, while secondary market prices for FHA-insured new-home mortgages remained at the high figure of $96.4, there were some signs of an easing in the money markets—which most observers have been figuring will hold down housing construction.

On this point, FHA reported that dwelling units covered by applications for FHA insurance increased in December by 13 percent; and new homes were reported selling almost as quickly as a year ago—with houses in the "moderate" $11,900 to $18,000 bracket accounting for three-fifths of all sales.

At the same time, Veterans Administration figures showed some signs that the long-standing squeeze on GI home loans, if not easing, was at least not tightening further. Property appraisal requests for GI loans on new housing rose slightly in January, after six consecutive months of decline. VA thought the change indicated that loan money was becoming more available, even though they cautioned that the upturn in January might be in the nature of a freak.

Good Business

Despite expected seasonal drop-offs in totals, business and public plans for new construction continued to spell good news for architects last December. Charts (page 93) indicate ample new work coming into the market.

Book Note

For your bookshelf: information on design, construction and maintenance of swimming pools, gymnasiums, auditoriums, tennis courts, chapels, and other installations of a community welfare and recreational center, is included in a new Navy booklet, being released through the Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C.

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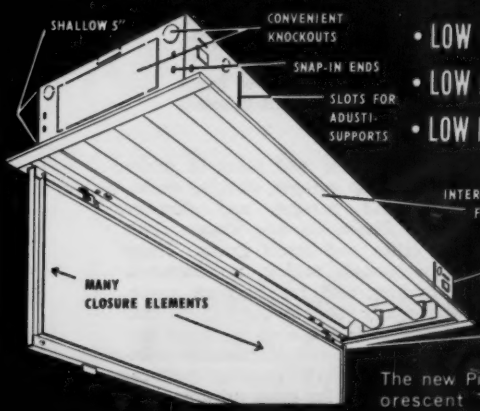

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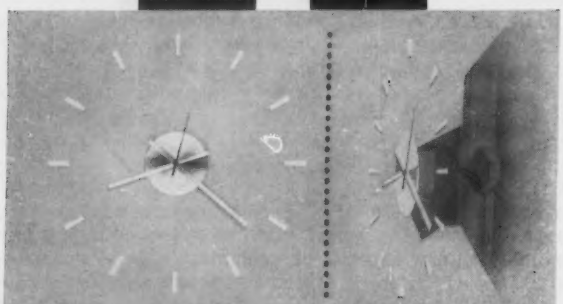

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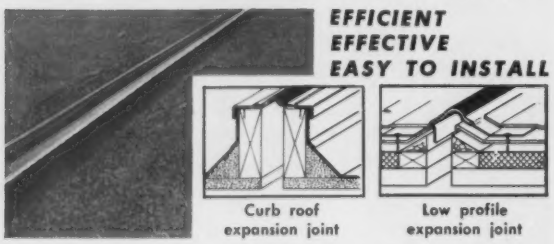

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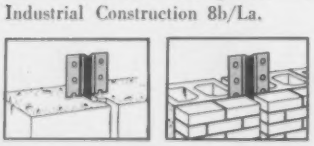

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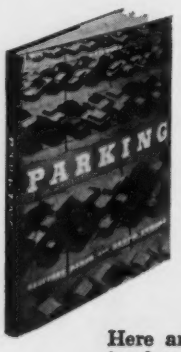

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By Geoffrey Baker and Bruno Funaro

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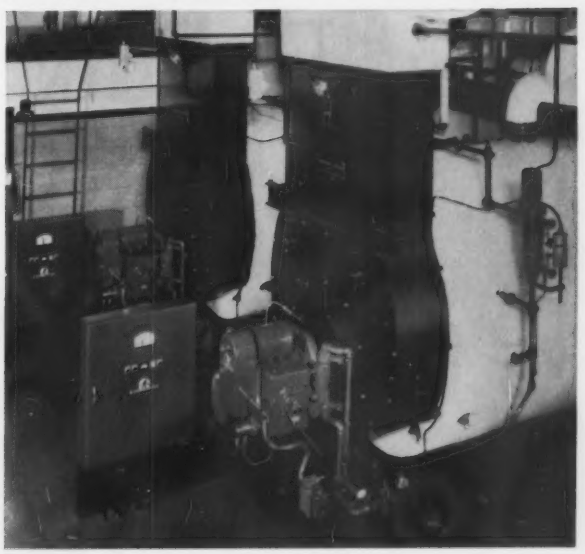

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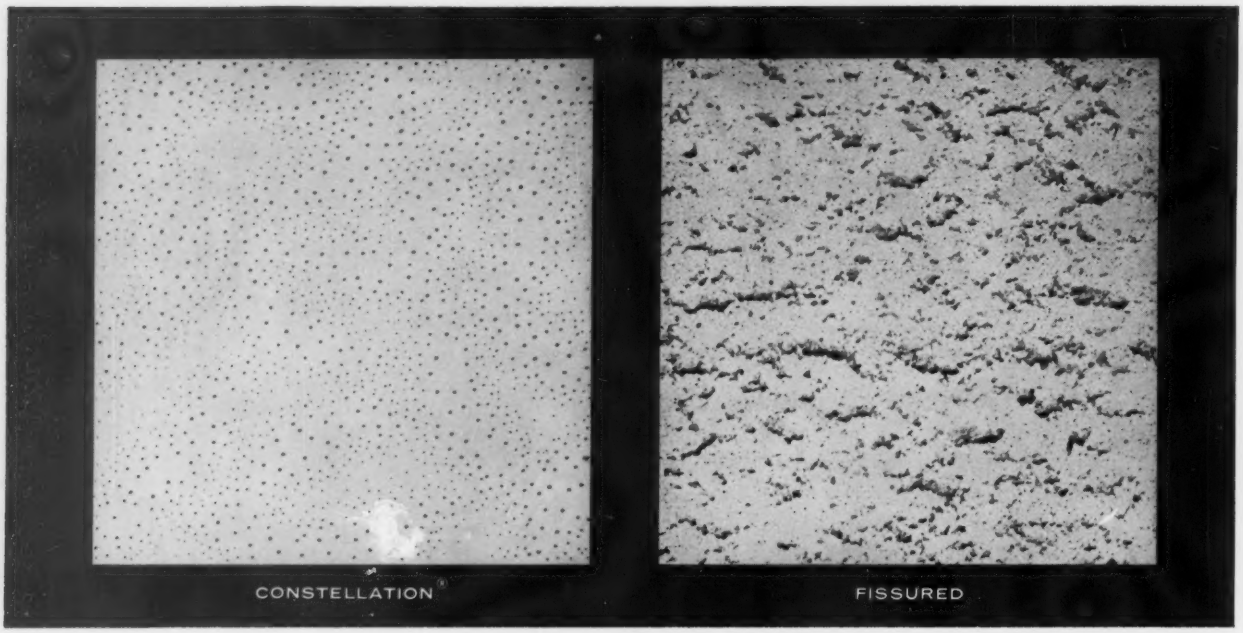

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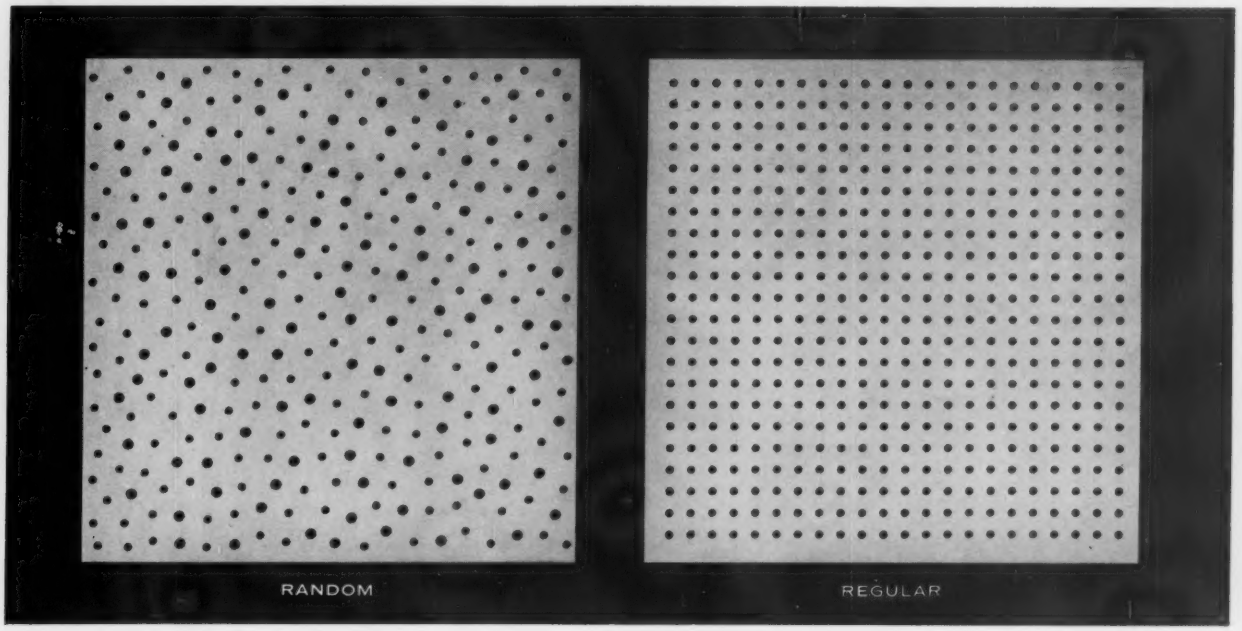

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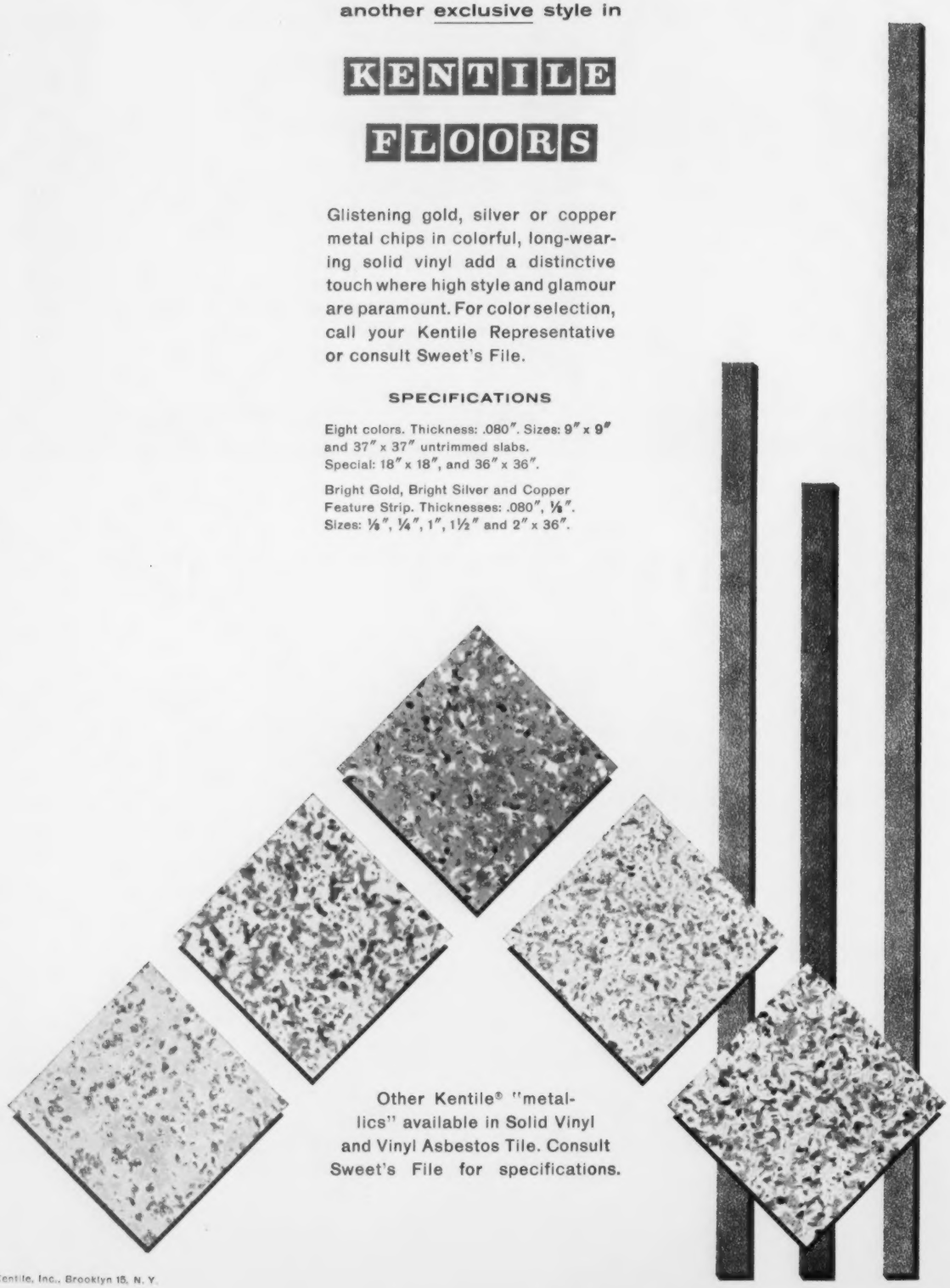

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SANTA MONICA, CALIF.—Douglas Aircraft Company, Inc., has announced that two Nike Hercules radar and power-equipment buildings recently erected at White Sands Missile Range introduce a structural system offering fast, unskilled assembly in practically any climate.

The system, called the "Douglas Aircomb Building System," consists of wall and roof panels of lightweight, high-strength structural paper honeycomb faced with aluminum sheets. The mortised edges of the panels are lined with pneumatic tubing, which, during erection, is inflated to 3½ to 4 lb per sq in. This seal fills any openings or crevices between wall panels or roof, and is said to insulate the interior against heat, cold, moisture, and dust.

Utilizing an 8-ft module, the system comes in ten parts for the basic unit: two wall panels, two roof panels, and six truss components. Electrical wiring and air-lines for pressurizing the tube-sealing are pre-installed in the trusses. In erection, wall panels are laid flat on a level surface, then attached to trusses at hinge points. Roof panels are then attached to the truss and wall panel sub-assembly. As a crane lifts the unit for placement on the foundation, the walls unfold and are secured to ceiling, floor, and adjoining units by bolts. Electrical and air systems plug into neighboring units as construction progresses. Douglas Aircraft Company, Inc.

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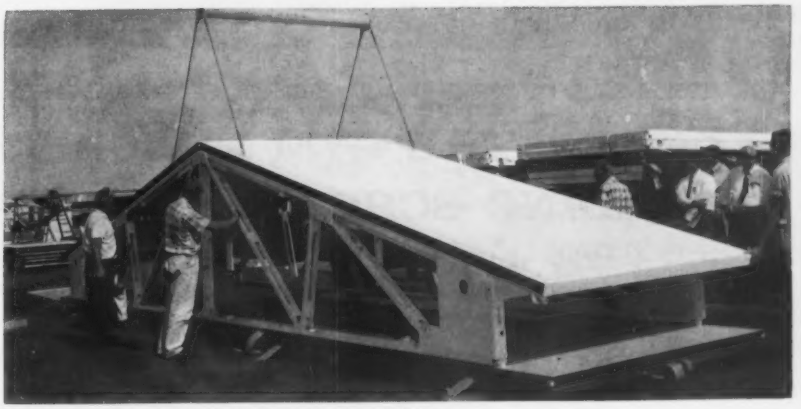
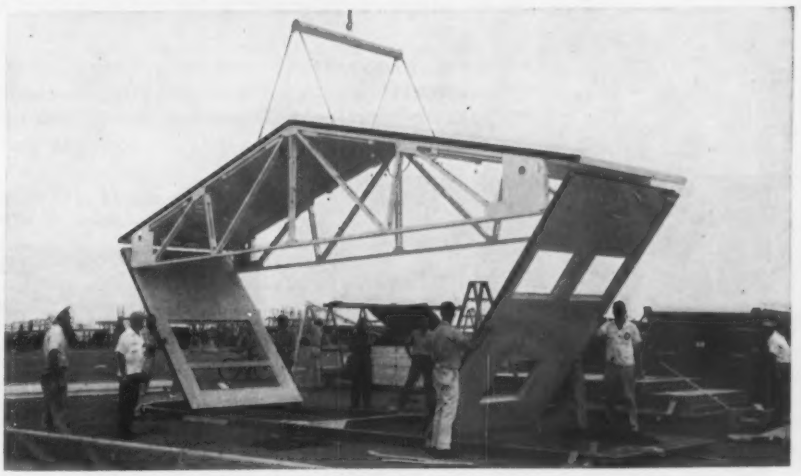


Roof panels are affixed to truss before lifting.



As crane lifts roof, wall units fall into place.

ARCHITECT-DESIGNED FURNITURE IDEAL FOR COMMERCIAL BUILDINGS

NEW YORK, N. Y. — Meticulously-designed furniture featuring frames of stainless steel, bronze, and brass, leather upholstery, and surfaces of marble and plastic was introduced to architects and designers at the recent opening of the new factory showroom of Edgewood Furniture Company, Inc.

Designed by William Armbruster, head of Edgewood and a graduate architect, the furniture includes large-scale pieces suited for use in office buildings, hotels, and institutions. Such a unit is the platform seating, consisting of two leather-covered "loveseats" set upon a base of Italian Cremo marble, backed with two planters. This piece is 15 ft long, 43½ in. deep, and 32½ in. high. List price is $6350. Another striking unit is the planter bench which has a polished-bronze frame and planters, and seating with square, welted upholstery. It is 13 ft long, 24 in. deep, and 18½ in. high. List price: $2600.

Many Edgewood pieces have been cited by museums, design shows, international trade fairs. Edgewood Furniture Company, Inc.

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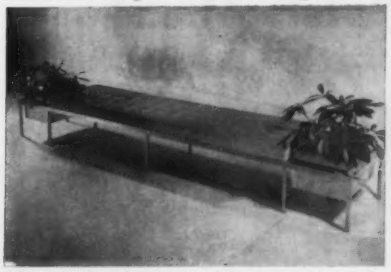

Planter bench blends bronze and fabric in clean-lined appearance.

Upholstery of unit is leather, patterned in small squares.

Frame and legs of platform seating unit are of stainless steel.

Walter P. Chrysler High School Field House, New Castle, Indiana. Architects: Ralph E. Legeman & Associates, A.I.A., Evansville, Ind. Design covered by U.S. Patent No. 2,761,181.

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As shown in the photos, this unique design provides for excavating and pouring the bleachers on the earth as framework. The roof is supported at grade line by trusses incorporating haunches for support as an integral unit, without need for supporting columns. Spectator entrances and exits are at grade level. Seating capacity, 9,252. Building contains 81,555 sq. ft., with a construction cost of $10.41 per sq. ft.

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Let the Hillyard "Maintaineer®" in your area give you an expert's advice on clean-up and initial treatment of any floors you specify. He'll gladly serve as your Job Captain,

"On Your Staff, Not Your Payroll"

DEPT. A-4

H I L L Y A R D

Passaic, N. J. ST. JOSEPH, MO. San Jose, Calif.

Branches and Warehouse Stocks in Principal Cities

PRODUCERS COUNCIL

SEE OUR CATALOG IN SWEET'S

You'll Finish Ahead with

HILLYARD

For more information, turn to Reader Service card, circle No. 320

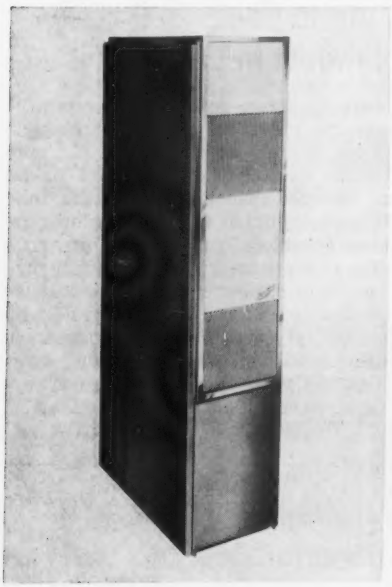
Continued from page 107

Packaged Chimneys Come With Smoke Deflector

Smoke deflector which minimizes sooting is now standard equipment with company's all-fuel packaged chimneys. Chimneys have special top design that

guards against rain, snow, downdrafts, nesting birds, etc. All models are available with choice of eight decorative top housings. Some models come in buff as well as red. General Products Company, Inc.

On Free Data Card, Circle **102**



Minimum Clearance for Gas-Fired Furnaces

New gas-fired up-flow furnaces can be installed in a space 12″ wide (60,000 and 80,000 Btu units) or 20″ wide (100,000 and 120,000 Btu units) since they are A.G.A.-approved for 0″ clearance on all sides. Improved diverter design has made it possible to design an approved 4″ flue pipe for smaller units, the first small-dimension flue pipe in the industry. Another improvement is quiet operation of blowers, which have drive options to meet air-handling requirements for both heating and air conditioning. Armstrong Furnace Company.

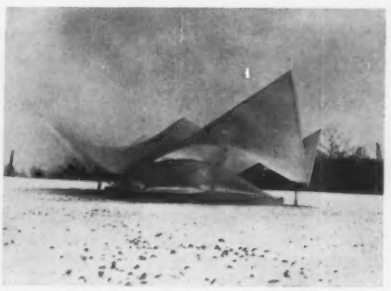
On Free Data Card, Cirle **103**

Blower Condenser's Shape Avoids Roof Reinforcing

New type of air-cool blower condenser designed for use in rooftop locations has shape that allows for location on most roofs with a safe lbs/sq ft loading, thus eliminating

costly reinforcing of roof members. Air movement up and out keeps noise at a minimum, and prevailing winds do not affect its location. Models of the "LSBC" (Low Silhouette Blower Condenser) are available from 5 to 53.5 tons. Dunham-Bush, Inc.

On Free Data Card, Circle **104**



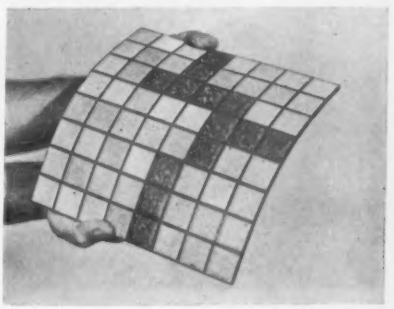
Plastic Light Diffusers Have Unique Shape

Fiberglas "sky shells" are used as light diffusers on roof of Harrison & Abramovitz's library at Brandeis University. Together with transparent-acrylic domes underneath (to weatherproof the openings), shells protect books from deteriorating sunlight; add interest to roof, which is visible from higher elevations; give sense of airiness and view of the sky from within; decrease summer air-conditioning load; and provide abundant glare-free light. Each shell consists of four hyperbolic paraboloids whose corners rest on a 6′ x 12′ rectangle. Bolting to structural channels gives anchorage against 80 mph winds. Beetle Plastics Division, Crompton & Knowles Corporation.

On Free Data Card, Circle **105**

Ceramic Mosaic Tiles Pre-Set in Rubber Grid

The resilience of rubber and the permanence of ceramic tile are uniquely combined in new "Ceramaflex" floor tile. Ceramic tiles 1″ square are firmly fused into a rubber grid, both sur-



faces giving high resistance to usually troublesome damaging agents. Many other desirable features are in this flooring: resiliency under foot, immunity to indentation and scratching, fire resistance, and easy damp-mop maintenance. Product is made in units 9″ square and 7/32″ thick, in 12 mosaic patterns. Installation of the 9″ squares is relatively simple, as they are secured to the sub-flooring with an adhesive. Any cutting and fitting is easily accomplished. There is no delay in waiting until the material is set before being able to walk on it. United States Ceramic Tile Company.

On Free Data Card, Circle **106**

Mezzanine Floor System Utilizes Modular Design

Doubling shelf space in the same floor area is possible with a new floor grating system. Present shelving can be extended as ceiling height permits, then inexpensive non-skid steel catwalks (complete with access stairway) are installed. Modular design permits custom fitting of any installation, while mass-produced interchangeable parts keep cost low. Equipto.

On Free Data Card, Circle **107**

Continued on page 110

(Continued from page 109)

Automatic "Ladder" Lifts Swimmer from Pool

New "Mermaid Lift," looking like a ladder but operating like an elevator, brings a swimmer automatically and effortlessly out of a pool. The swimmer simply grasps the hand rails, places weight on the submerged step, and is raised above surface of the water to non-skid landing platform.

Step and hand rails rise as a unit, operating by water pressure; step remains at top position until bather alights, when it slowly returns by gravity to its lower position. Rate of ascent is 25 fpm. No lubrication is required, as there are no motors, pumps, gears, or chains. Metal parts are non-rusting; glass-fiber supporting panels are long-lasting. Zehnder Corporation.

On Free Data Card, Circle **108**

Structural System Has Wood-Trough Construction

"Trofdek" is a new wood structural system offering many advantages. Units span up to 45′, and their light weight—only 3-4 psf—permits reduction or even elimination of supporting structural elements. Installation is easy and fast—several thousand feet can be installed daily. For ceiling applications the natural trough conceals utilities and the exposed wood gives a natural appearance to interiors. Standard width of troughs is a multiple of 16″ module; depth of troughs increases according to unit's span. In addition to varied applications for roofs, floors, and walls, the system can be used admirably as permanent or temporary concrete form work. Wood Fabricators, Inc.

On Free Data Card, Circle **109**

Flush Door Now Has Paint-Surface Overlay

A new exterior-paint-grade door, the first flush door on the market with a paint-surface overlay, has been announced. "Weldwood Duraply Exterior Paint Grade Door" will not face check. Outer faces are overlaid with the same waterproof and abrasion-resistant material used for boat hulls and Duraply siding. The high phenolic-resin content gives added protection from the elements. With one prime and two finish coats of paint, the surface can last four to five years, it is claimed. Prices run only slightly higher than similar doors without the overlay. United States Plywood Corporation.

On Free Data Card, Circle **110**

Control of Noise By New "Paint"

An inexpensive method of noise control is provided by "Hush-Tex," a thick plastic emulsion heavily reinforced with cork and asbestos. This composition, plus the presence of built-in microscopic air pockets, gives insulation against heat, cold, and fire, as well as against noise. The interesting rough-textured finish camoflages soil and smudges that appear more frequently on smoother surfaces, and also helps minimize bounce-back echoes common in large rooms having smooth surfaces. With this product, which can be applied over any paintable surface, plastering and similar finishing operations can be eliminated; or since product is compatible with fresh plaster, concrete, or masonry, construction time can be shortened. Preco Chemical Corporation.

On Free Data Card, Circle **111**

New Sealant Based on "Hypalon"

Solutions to many glazing and calking problems are provided in new one-part sealant, which is based on Du Pont's "Hypalon" (previously available for sealing only in the form of costly extrusions and sheet). "Mastic Sealant" was originally developed as a seal for curtain-wall panels, but field trials have shown it to be satisfactory for many other joint closures—especially where sunlight, water, ozone, strong chemicals, abrasion, and movement are factors. The material bonds tightly to all materials and self-cures to a resilient-rubber seal. It is thus ideal for construction and expansion joints in concrete, or for tight closure where metals or other materials are joined to masonry. It effectively seals piping and ductwork, dampens vibration, and reduces equipment noise. Retention of whiteness and color makes the new sealant decorative as well as functional. Grayguard, Inc.

On Free Data Card, Circle **112**

Murals Composed of Sawdust in Latex

Murals, custom-designed for commercial and industrial areas, are painted in an entirely new medium. The materials used are various-sized flakes of sawdust suspended in a pure rubber-latex binder to which color pigment is added. Textured surfaces may rise as much as 2″ from the wall surface, and cut-out shapes may be suspended free of the wall. Roughness of texture gives an interesting contrast to an area which may otherwise have high finishes in furniture and surfaces. Scenic Backgrounds, Inc.

On Free Data Card, Circle **113**

Drafting Film Has Superior Qualities

A superior new drafting film has recently been introduced. Ideal for pencil, but also accepting ink, the surface resists smears and erases cleanly. The exclusive "Cronar" polyester film base makes the product flexible yet enables it to lie flat, hold its size, and resist moisture. Tear strength is excellent. The .004″-thick "Cronaflex" is available in sheets and rolls, with a glare-resistant matte finish on one or both sides.

Photo Products Department, E. I. du Pont de Nemours & Company.

On Free Data Card, Circle **114**

NEW BULLDOG XL BUSTRIBUTION DUCT...

3 WAYS SAFER FOR PEOPLE AND PROPERTY

HERE'S THE FIRST DEAD-FRONT plug-in duct. Butyl insulation covers the full length of each silvered aluminum bus bar, *even in bus plug openings*. You get positive protection for personnel against accidental contact with "live" bars.

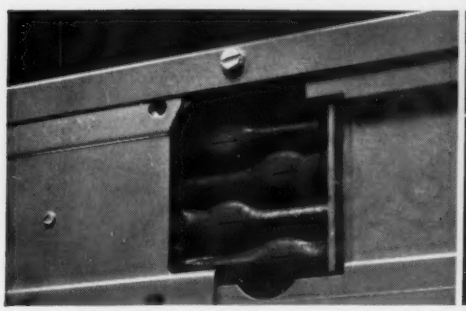
PLUG-IN SAFETY DOOR IS ALWAYS CLOSED during installation of XL Safety Plug. Interlock finger positively prevents plug installation or removal when Safety Door is open . . . and it keeps door from closing against "live" plug fingers.

THERE'S NO ARCING to endanger people or property . . . you can't plug in or unplug when the switch is "ON."

New XL BUStribution® Duct cuts down installation time . . . takes less space . . . reduces duct weight on building structure as much as 40%. Keyed bus ends slip together in a hurry while a single integral bolt locks joints securely under a ton of pressure.

Ask your BullDog distributor to arrange for a demonstration. You'll see how fast-to-install XL BUStribution Duct and matching Safety Plugs really are!

BullDog Electric Products Division, I-T-E Circuit Breaker Company, Box 177, Detroit 32, Michigan. In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N. Y.



IT'S TRUE DEAD-FRONT. Each silvered aluminum bus bar is full-length insulated with Butyl envelope.

IT'S A SAFETY DOOR. You can't plug in or unplug with the door open, can't close door on "live" plug fingers.

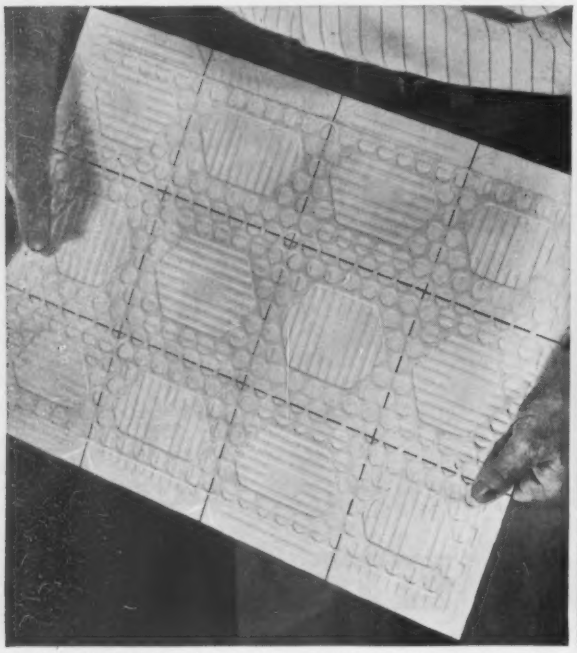
IT'S A SAFETY PLUG. You can't plug in or unplug against a load . . . safeguards personnel and equipment against arcing.

BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY

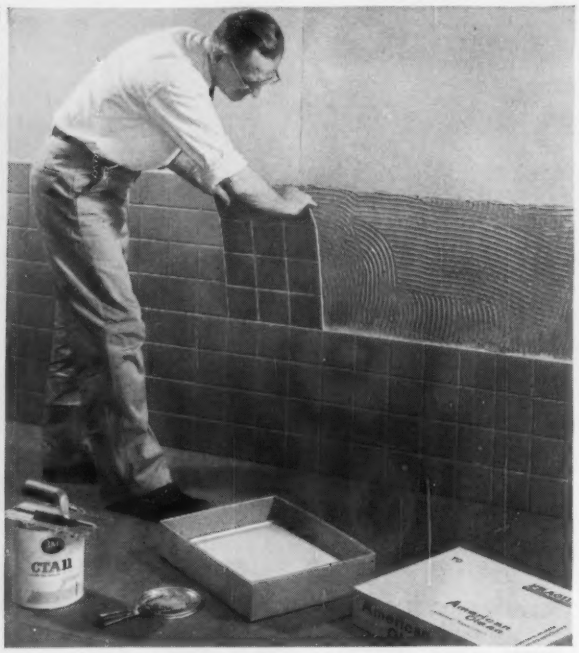
®

KEEP PACE WITH ELECTRICITY

For more information, turn to Reader Service card, circle No. 321



Master-Set's specially developed paper-thin mounting sheet holds tiles rigidly in place—fits snugly with a tight bond, conforming smoothly to wall contours. Individual tiles are easily cut or snapped from sheet.



Master-Set sheets go from carton to wall in one motion with no soaking needed—can be installed with adhesives, thin-set mortar, or conventional cement mortar with self-curing bond coat.

The fastest, most economical way to set glazed tile—

NEW *MASTER-SET* TILE

with 75% open area for better bonding

American Olean's new Master-Set* Mounted Tile cuts glazed tile installation costs substantially—especially on long corridors and large wall areas.

With Master-Set, as many as twelve 4¼" tiles are set as one unit, covering up to 1½ sq. ft. at a time.

At the same time, Master-Set assures good appearance—thanks to American Olean's precision sizing which provides straight, even, uniform joints throughout the job without the need for trowel adjustment.

Now available in all standard glazed tile sizes—in bright, matte and Crystalline glazes—and in some Scored Designs.

WRITE FOR DESCRIPTIVE FOLDER.

CERAMIC TILE
American Olean

*Trademark

AMERICAN OLEAN TILE COMPANY • EXECUTIVE OFFICES: 1514 CANNON AVE., LANSDALE, PENNSYLVANIA • FACTORIES: LANSDALE, PA., OLEAN, N. Y. LEWISPORT, KY., MEMBER: TILE COUNCIL OF AMERICA, PRODUCERS' COUNCIL • A SUBSIDIARY OF NATIONAL GYPSUM CO.

For more information, turn to Reader Service card, circle No. 322

AIR/TEMPERATURE

Heating-Coil Design, Products Described

New 32-page detailed product bulletin describing construction and operation of heating coils has been released. Explanations, graphs, charts, and illustrations are given for standard-steam, hot-water, steam-distributing and double-distributing coils. Architectural specifications for different types of coils, as well as coil-design formulae and piping diagrams, are included. American Air Filter Company, Inc.

On Free Data Card, Circle **200**

Comprehensive Text On Industrial Heating

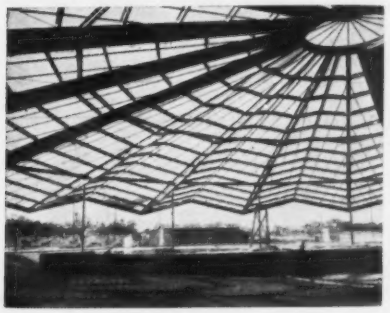
All information necessary to design industrial heating jobs using large-capacity direct-fired heaters is organized and published under one cover. The comprehensive 64-page text includes definitions of terms, complete explanation of direct-fired heaters, heat-loss calculations, single and multiple installations, door heating, process heating, make-up air, fuel-piping design, and controls. Also presented are handy conversion tables for pressure, temperature, weights, and measures. Lennox Industries Inc.

On Free Data Card, Circle **201**

CONSTRUCTION

Architects Speak on Steel Used in Schools

Structural Steel for Schools—A Symposium has been reprinted from proceedings of the 1959 National Engineering Conference. The 20-page booklet should be of interest to architects and engineers planning new school construction. Those who participated in discussion were: Richard L. Aeck, who stressed economy of steel when



care is given to detail; Charles R. Colbert, who has designed all his schools in steel and defines school needs as they affect mental, emotional, and spiritual health of students; Philip H. Hiss, who says, "it is possible to build far better schools than are generally erected today and for no greater overall cost," and cites examples from Sarasota County, Fla.; and Wallie E. Scott, who explains factors contributing to good school design—function, economy, and environment. American Institute of Steel Construction.

On Free Data Card, Circle **202**

Fire Ratings Re-Issued For Vermiculite

Revision of the booklet, *Vermiculite Fire-Resistance Ratings,* for vermiculite plaster, concrete, acoustical plaster, and new Type-MK direct-to-steel fireproofing, has been published. Sectionalized for quick reference, 8-page booklet summarizes technical data for 59 official fire ratings, eight of which are direct-to-steel floor systems. Basic details are illustrated with more than 50 construction drawings. Vermiculite Institute.

On Free Data Card, Circle **203**

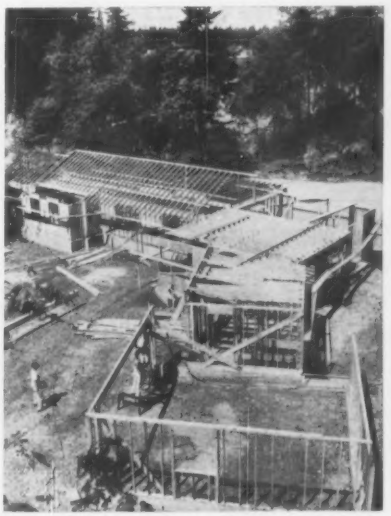
Design Tables for Tile and Concrete Slabs

Structural Design of Combination Tile and Concrete Slabs contains 24 pages of tables for safe superimposed loads for simple, end, and interior spans. Accompanying text is kept to a minimum; only necessary footnotes appear. A brief introduction states important factors to be considered in the use of tables and in this particular type of construction. A page of drawings shows typical construction details. Department of Engineering & Technology, Structural Clay Products Institute.

On Free Data Card, Circle **204**

Publications Introduce Wood-Construction Series

First three publications in new Wood Construction Data series are now available. *Manual for House Framing,* 40 pages, describes proper methods of fabricating lumber in residential construction, and provides information on construction features that make for satisfactory performance of lumber. *Random-Length Wood Decking,* 8 pages, provides design information on



use of 2" decking in random lengths with unsupported end joints. *Design of Wood Formwork for Concrete Structures,* 16 pages, gives current information on structural lumber and boards in formwork construction. All booklets are attractively designed to present extensive material in clear fashion. Technical Services Division, National Lumber Manufacturers Association.

On Free Data Card, Circle **205**

DOORS/WINDOWS

Curtain Walls and Windows Illustrated

New catalog on aluminum windows and curtain walls is now available. Visual selector index gives easy orientation to the 36 pages of data. Details are drawn at half or full scale, and information is clearly and briefly stated for each window series—spandrel panels, and reversible, double-

Continued on page 114

Continued from page 113

hung, single-hung, projected, and stationary windows. General specifications and recommended glazing procedures cover all types. The Adams & Westlake Company.

On Free Data Card, Circle **206**

Window and Door Details Available for Tracing

Tracing sheets that comprise full line of aluminum windows, doors, and curtain walls are offered. Products included on the 22 sheets are church windows, ribbon windows, projected windows, pivoted windows, custom windows, ventilators, stock doors, custom doors, screen doors, and entrances. Details at quarter or full scale make direct use possible. Specifications are also presented on sheets that may be duplicated. Marmet Corporation.

On Free Data Card, Circle **207**

ELECTRICAL EQUIPMENT

Fixture Selection for Residential Lighting

New *Architectural Lighting* catalog gives a complete review of fixtures for interior use, helping in preliminary layout of a lighting scheme as well as in selection of appropriate equipment. Four basic interior illumination categories are presented: downlighting, diffuse lighting, wall lighting, and accent lighting. Within each category, the several types of available fixtures are shown. Comparative tables indicate appropriate ceiling heights, spacing of units, and slope of ceiling for which the fixtures are intended. Century Lighting, Inc.

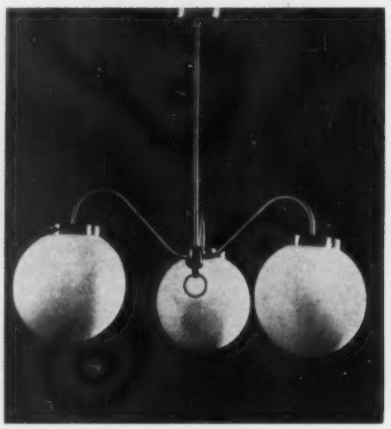
On Free Data Card, Circle **208**

Design Information On Circuit Breakers

Claiming to show the electrical industry's most complete and diversified line, *Bulletin 5001-1A* gives 40 pages of design information on molded-case circuit breakers. Many breakers for special applications and abnormal operating conditions are described. Particularly convenient is a 2-page reference chart picturing each type of breaker and providing, at a glance, data on ratings, overcurrent devices, and accessories. I-T-E Circuit Breaker Company.

On Free Data Card, Circle **209**

Imported Lamps Of Contemporary Design



Contemporary lamps and fixtures—incorporating glass and ceramics from Italy, Czechoslovakia, and Scandinavia—are shown in recent 40-page catalog. Ceiling fixtures are of single-glass, twin-mounted, and cluster types; design of these and floor lamps is elegant and handsome. Lamps from this manufacturer were selected for showing at Brussels World Fair. Koch & Lowy Manufacturing Company.

On Free Data Card, Circle **210**

FINISHERS/PROTECTORS

Preservation of Wood By Pentachlorophenol

Brochure on pentachlorophenol gives 8 pages of general information on wood preservation. Methods of providing protection—either by wood-treating companies, lumber suppliers, or carpenters—are outlined. Application data for preserving various wood materials is included with full specifications. Reichhold Chemicals, Inc.

On Free Data Card, Circle **211**

Concrete Admixtures For Special Needs

New 4-page catalog describes admixtures for concrete, listing in detail their uses, advantages, and specifications. Products specially designed for particular needs are "Darex AEA," which adds air; "WRDA," which reduces water; "Daratard," which retards set; "Daraweld," a bonding agent for concrete repair; and "Daracone," a water repellent for masonry. Dewey & Almy Chemical Division, W.R. Grace & Company.

On Free Data Card, Circle **212**

Painting Methods For Insulation Board

Proper methods for painting insulation board are covered in new 10-page booklet, prepared jointly by IBI and National Paint, Varnish & Lacquer Association. Explanations include methods for painting various exterior and interior insulation-board products, and glossaries of insulation-board and painting terms. A chart to be used as rapid reference when selecting coating materials is included. Insulation Board Institute.

On Free Data Card, Circle **213**

Stains for All Woods And Purposes Presented

Stains for any wood and purpose are discussed in new 20-page catalog. A separate page is devoted to each type of stain, with careful explanations on usage, coverage, and application. Stains are shown on actual wood samples. Prior to publication, the company conducted a survey among architects and specifications writers for recommendations regarding format and contents. Olympic Stained Products Company.

On Free Data Card, Circle **214**

INSULATION

Home Insulations Extensively Discussed

Definitive reference manual on *Home Insulations* has been published. The 24-page booklet offers, under one cover, design principles, design standards, application standards, tabular data, and product information. In addition to general notes on thermal design, manual offers specific information on insulation of roofs, attics, sidewalls, floors, crawl spaces, and basements. Booklet also contains previously unpublished data on heating and cooling costs, and statistics on year-round climate, for 65 cities. Owens-Corning Fiberglas Corporation.

On Free Data Card, Circle **215**

Sound-Transmission Values Modified

New attenuation values, based on Acoustical Materials Association's approved test method, are now available for this company's ceiling products.

Continued on page 118

Eastern's Star
VENETIAN DRAPERIES

give the most in beauty & versatility

BEAUTY With stylish Eastern's Star horizontal and vertical Venetians—the "slatty" look is gone forever. Exclusive S-Shaped slats *interlock* to form a "one-piece" drapery effect. Big choice of colors offers unusual styling opportunities.

VERSATILITY Custom made to your specifications, Eastern's Star Venetians serve with distinction in office, school, hospital or home. They're the only venetians protected with the exclusive Du Pont Ludox* anti-soil compound which ends washing for ever!

MORE PRIVACY, MORE VISIBILITY Closed, Eastern's Star Venetians provide complete privacy; open, they offer a wider, clearer view.

Eastern

*Du Pont's registered trademark for its anti-soil compound

1601 Wicomico St., Baltimore 30, Md.

Makers of acoustical systems and drapery hardware

Eastern Products Corporation P
1601 Wicomico St., Baltimore 30, Md.

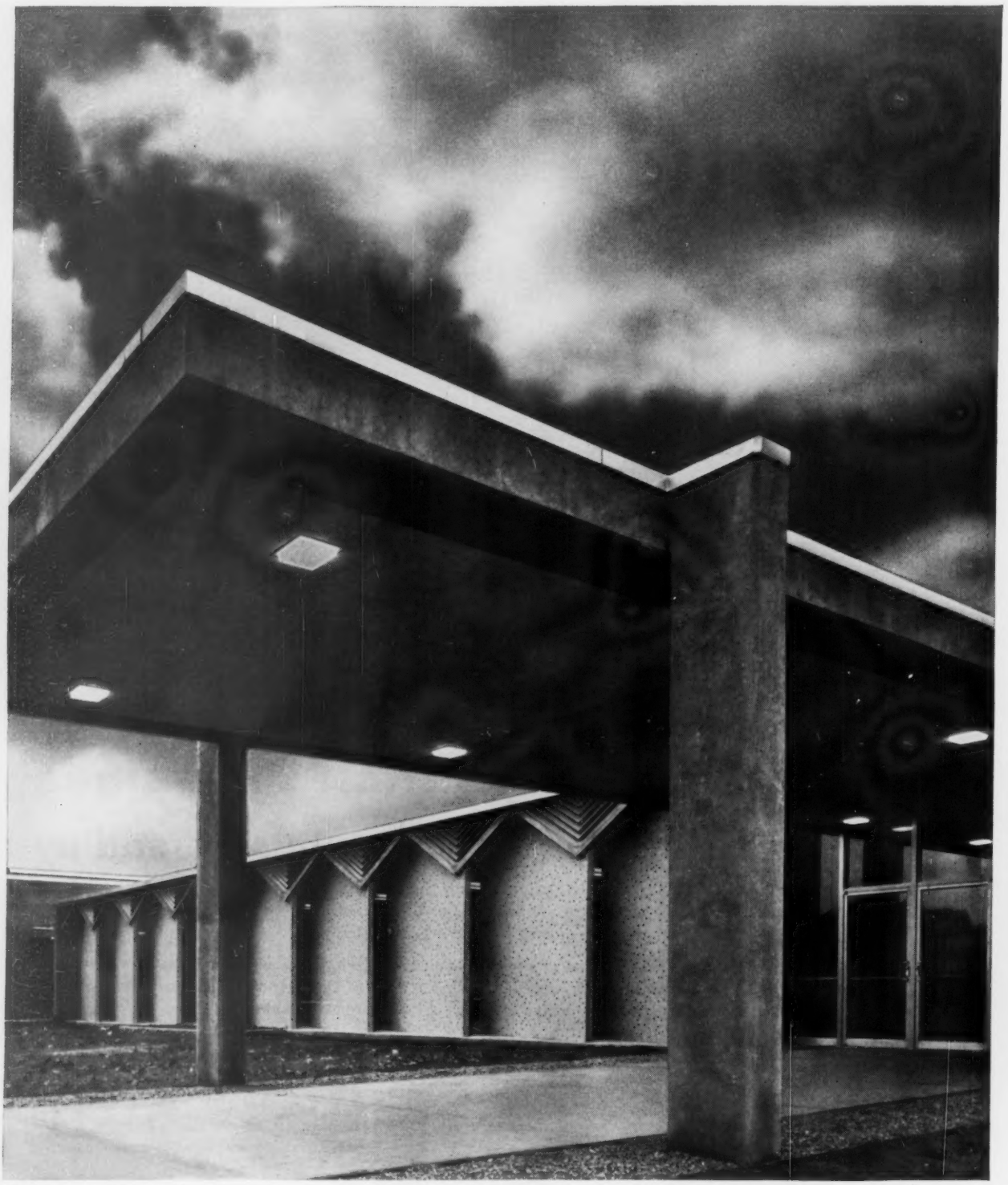
Please send complete details on Eastern's Star Venetian Blind.

name

street

city zone state

DOW | BUILDING PRODUCTS



Memorial Student Union Building, Southern Connecticut State College. Architect: Carl R. Blanchard, Jr., A.I.A., New Haven, Connecticut.

STYROFOAM®

delivers permanently low "K" factor, lower costs for Connecticut college building

Low thermal conductivity—"K" factor—was a major point in the choice of Styrofoam† to insulate the Memorial Student Union Building at Southern Connecticut State College. The building—which will house dormitories, apartments, cold storage areas, dining rooms, and activities rooms—required permanent insulation.

The application required an insulation with low moisture absorption, a low thermal conductivity factor, and one that would act as its own moisture barrier. Styrofoam was specified as the sole insulation material in the building—for all exterior cavity walls, for the foundation perimeter, and for all interior low temperature rooms.

Labor cost savings were also an important benefit from using Styrofoam. For example, one use of Styrofoam was in the exterior wall which was designed as a plenum chamber. Inside this 10" plenum cavity, the interior face of the exterior wall was insulated with Styrofoam applied by means of a water base adhesive.

The use of Styrofoam helped save construction costs by eliminating the need for battens, i.e., nailing of 2 x 2's over the insulation, as would be required with other insulation materials.

Because of its unique water and water-vapor barrier properties that bar moisture and won't absorb water, Styrofoam provides permanent, low-cost insulation efficiency for comfort and low temperature space. And its light weight makes installation fast and easy. For more information, write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1701EB4.

Other Dow building products

SCORBORD*—(Pat. applied for) Superior rigid insulation for foundation perimeters, slab floors. Exclusive pre-scored feature speeds installation.

ROOFMATE*—Lightweight rigid insulation for built-up roofs serves as its own moisture barrier. Reduces blistering, resultant leaks.

POLYFILM*—High quality polyethylene film for temporary enclosure or moisture barrier under slab or insulation.

SARALOY* 400—elastic sheet flashing conforms to surface contours. Bonds to any construction material. Won't crack. *TRADEMARK

†Dow's registered trademark for its expanded Polystyrene

Both walk-in refrigerators are insulated with Styrofoam.

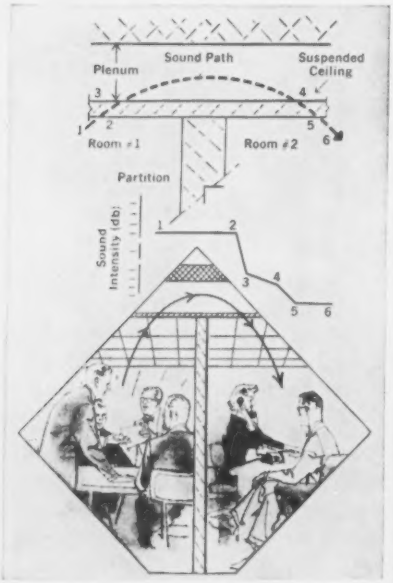
Main dining room, showing exposed concrete roof structure.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

See the "DOW HOUR of GREAT MYSTERIES" on NBC-TV

Continued from page 114

Revised method uses standard suspending-ceiling construction with 30"-deep plenum, and a ceiling-high partition with a high sound-transmission-loss rating. Three mimeographed sheets show sound-attenuation values

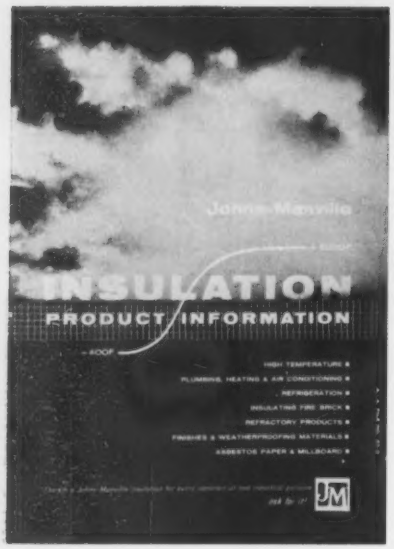


(difference in transmitted sound between adjacent rooms) for all products. The Celotex Corporation.

On Free Data Card, Circle **216**

Complete Data on Thermal Insulation

Thermal insulations for all types of commercial and industrial requirements, in applications ranging from —400 F to 3000 F, are described in new 54-page catalog. Entitled "Insulation Product Information," it contains six sections, each devoted to a specialized group of thermal insulations: industrial and high temperature; plumbing, heating, and air conditioning; refrigeration; insulating firebrick and refractories; finishes and weatherproofing materials; and miscellaneous insulations (asbestos papers, millboard, felts, blankets, and similar products). Individual sections are thumb-tabbed for easy reference. Information on each product consists of an application photo, description, available forms or types, advantages to users, and detailed specification data, including compliance with government and ASTM standards. Johns-Manville.



On Free Data Card, Circle **217**

SANITATION/PLUMBING

Reference Manual for Sewage and Drainage

Pumps for sewage and drainage service in commercial buildings, sewage treatment systems, and sewage lift stations for subdivisions, schools, motels, etc., are highlighted in new 12-page reference manual. In addition to product descriptions and dimensions, *Manual 1117* includes general data on pump selection for building service, with estimating curve for capacities based on fixture flows. A digest is presented of basic functions and design criteria for community or institutional sewage treatment systems. Yeomans Brothers Company.

On Free Data Card, Circle **218**

Brass and Copper Plumbing Supplies

With completion of a new plant (and expanded distribution of copper water tube, DWV copper drainage tube, brass and copper pipe, and plumbing brass goods), this firm has issued a new 8-page catalog. Essential information is given for the design, estimation, and specification of tube and pipe for any installation. Data illustrates types, sizes, weights, strengths, velocities. Bridgeport Brass Company.

On Free Data Card, Circle **219**

SPECIAL EQUIPMENT

Specification Sheets on Movable-Wall Systems

File-holder catalog with loose-leaf specification sheets presents facts and features of curtain-wall-construction movable walls. Partitions have framework of durable anodized aluminum, with wide selection of panel facings and glass provided to specifications. Individual panels can be installed or removed without disturbing existing framework or adjacent panels. Snap-on covers provide easy access to electrical and telephone raceways. Aluma-Wall Partition Company.

On Free Data Card, Circle **220**

Design Data on Tubular Railings

New catalog on welded and fitted tubular railings gives basic engineering data and standards for railing design. A unique pictorial check of railing fittings provides immediate identification and fast selection of fittings for any type of railing application. An-

other section gives design details in ready form for incorporation in drawings. Complete list of standard nomenclature is included. Tubular Products, Inc.

On Free Data Card, Circle **221**

Advantages Shown for Glass-Fiber Fabrics

An all-inclusive report details the characteristics of glass-fiber fabric that make it "an unusual architectural tool." First of its kind to describe all information of specific value to those involved in commercial application of "Fiberglas" draperies, the report outlines functional and esthetic values of the fabric with statistics from varied sources. Used as drapery material, the fabric filters light to a rich glow, eliminates sun glare, reduces solar-heat

Continued on page 123

Another of America's architectural achievements— the Gulf Building—features **Briggs Beautyware**

Beauty, efficiency and durability are the most wanted features in the components of modern buildings.

For these reasons, Briggs Beautyware is being specified for more and more of America's fine buildings, typified by the Gulf Oil Company's building in Midland, Texas. Briggs offers the sculptured styling, lustrous durability and carefully worked out features so important in today's modern structures.

Put the advantages of Briggs Beautyware to work for you. Specify from the complete line of high-density vitreous china. Quality-controlled to meet every requirement, it will provide years of dependable operation. Briggs Beautyware is the brand that makes the difference. Send today for free literature. Advertising Department, Briggs Manufacturing Company, Warren, Mich.

GULF BUILDING—Midland, Texas. Owner: R. E. Dumas Milner, Jackson, Miss. Architects: Hedrick and Stanley, Fort Worth, Texas. Plumbing Contractor: Davis Plumbing Co., Jackson, Miss. Plumbing Distributor: Paine Supply Co., Gulfport, Miss.

BRIGGS CARLTON WATER CLOSET is a vitreous china syphon jet bowl available in six compatible colors, plus white.

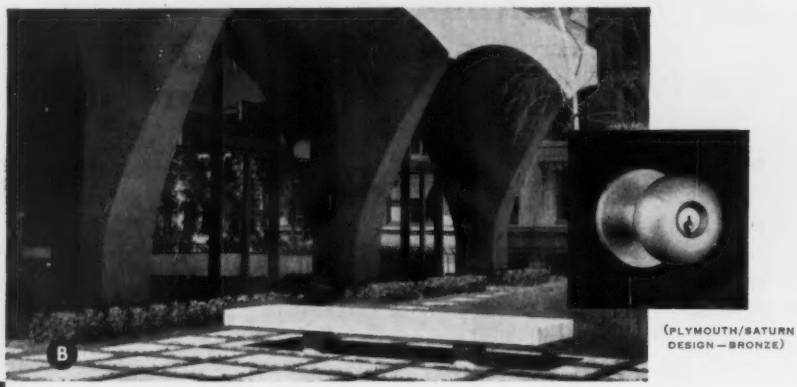
BRIGGS MILTON LAVATORY has 5" back, two cast-in soap depressions, anti-splash rim. Wall-mounted. Six compatible colors.

BRIGGS LAWTON URINAL is a wall-hung, washout urinal with integral extended shields, flushing rim, integral china strainer and trap with cleanout. Compatible colors or white.

BRIGGS
BEAUTYWARE

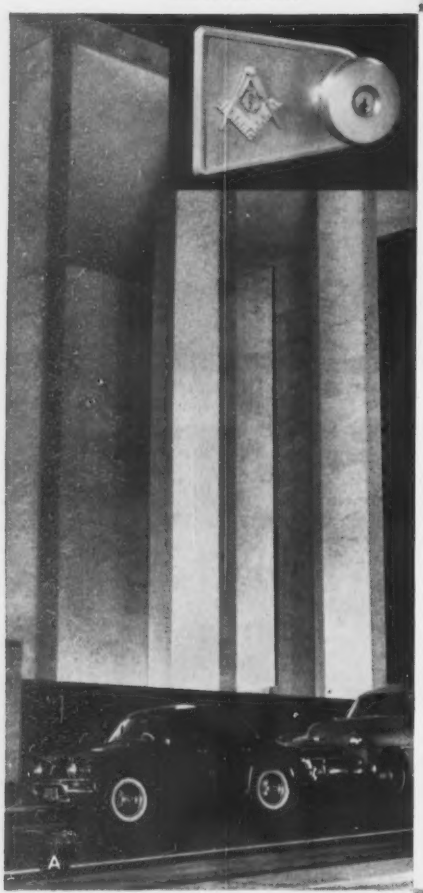
THE STYLE LEADER IN PLUMBING FIXTURES

For more information, turn to Reader Service card, circle No. 325



(PLYMOUTH/SATURN
DESIGN—BRONZE)

(CUPRA/CREST
DESIGN—ALUMINUM)



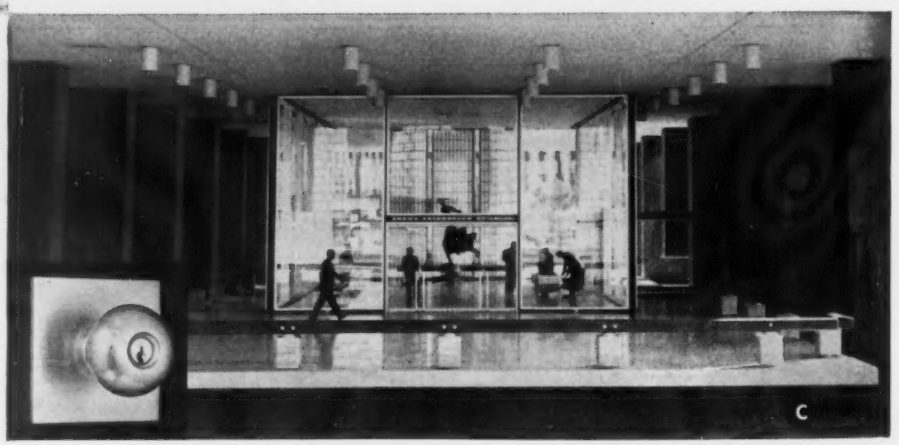
Designs of Enduring Worth —Locked by SCHLAGE

The glory of a building grows out of a sensitive selection and use of materials by the architect. We at Schlage make it our aim to assist the architect in our special field by placing at his disposal a variety of designs and finishes to suit every style and mood of design.

In the San Francisco-Oakland area, see each of the four important buildings pictured here. All have used Schlage Locks as elements of the whole.

At the AIA Convention...
Visit the Schlage Exhibit
California Masonic Memorial Temple
Booths 44-45

(PLYMOUTH/CENTURY
DESIGN—STAINLESS STEEL)



A. California Masonic Memorial Temple, San Francisco
Architect: Albert F. Roller
General Contractor: MacDonald, Young & Nelson, Inc.

(TULIP DESIGN—ALUMINUM)

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CYLINDRICAL LOCKS

Schlage Lock Company...San Francisco...Chicago...New York...Vancouver, B.C.

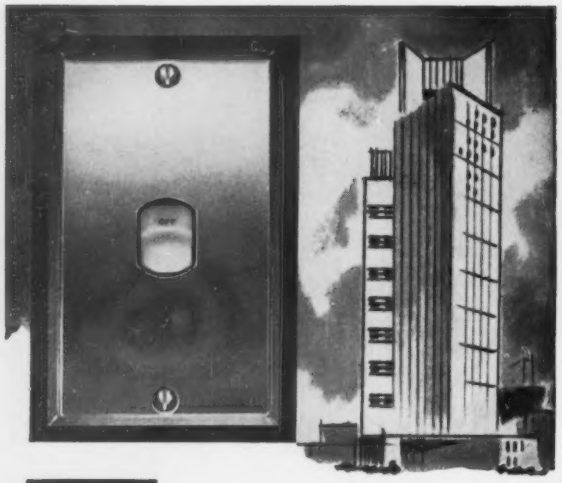
B. John Hancock Western Home Office, San Francisco
Architect: Skidmore, Owings & Merrill
General Contractor: Cahill Brothers

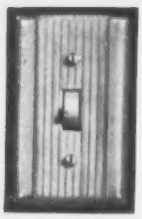
C. Crown Zellerbach Building, San Francisco
Architect: Hertzka & Knowles; Skidmore, Owings & Merrill, Associated Architects
General Contractor: Haas & Haynie

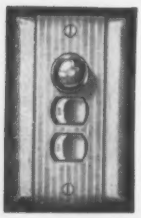
D. Kaiser Center Office Building, Oakland
Architect: Welton Becket and Associates
General Contractor: Robert E. McKee General Contractors, Inc.

For more information, turn to Reader Service card, circle No. 326

For more information, turn to Reader Service card, circle No. 328







the Switch of the Future

ready for your use NOW!

P&S ROCKER-GLO SWITCH

Many of today's switches are specialties primarily for decoration; some others are sturdily constructed for heavy duty performance. Now in one switch these two features are combined — P&S Rocker-Glo. Rocker-Glo's design and action are such that it can be pressed, pushed, rocked or rolled. It has the basic rugged mechanism that insures long, trouble-free performance. Eventually all light switches may have a rocker action — like Rocker-Glo.

Rocker-Glo switches are AC switches designed to be used at full current rating on tungsten filament and fluorescent loads (one switch takes the place of two ordinary AC-DC switches on fluorescent loads). It can be used anywhere old style toggle switches are used.

Rocker-Glo's clean functional lines and soft beauty blend with any decor and add a touch of gracious charm to any type of building.

Available in Despard interchangeable type, Despard type mounted on a strap and narrow rocker for tumbler switch plates. A specification grade switch, 15 and 20 amps. 120/277 volts AC.

Write for free Rocker-Glo bulletin, Dept. PA-46

P&S PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK

60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

For more information, turn to Reader Service card, circle No. 327

Automatic Electric Doors Speed Volume Trucking

NEW *Jamison Electroglide Doors**

A completely new design for power operated doors with famous Jamison Cold Storage Door performance. Fast, automatic opening and closing speeds traffic, saves time, eliminates refrigeration loss.

Send for a copy of new bulletin for data on operation, features, dimensions. Jamison Cold Storage Door Co., Hagerstown, Md.

** T. M. registered*

JAMISON
COLD STORAGE DOORS

NEEDLESS STEPS ELIMINATED IN MOVING PEDESTRIAN TRAFFIC HORIZONTALLY OR ON AN INCLINE WITH COMPLETE SAFETY . . .

SPEEDWALK® & SPEEDRAMP
PASSENGER CONVEYOR SYSTEMS

Stairways become beauty ways when they're glamourized by the "Magic Carpet" of SPEEDWALK and SPEEDRAMP Passenger Conveyor Systems. Beauty is only part of the story, however, for SPEEDWALK and SPEEDRAMP Systems provide features of versatility, safety, economy and public good will, unmatched by architecturally outdated "moving stair" type conveyances.

S-A

WRITE FOR BULLETIN 457

SPEEDWALK DIVISION
STEPHENS-ADAMSON MFG. CO.
45 RIDGEWAY AVENUE • AURORA, ILLINOIS

PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

For more information, turn to Reader Service card, circle No. 329

Continued from page 118

transfer, helps control sound through unique textures, and maintains itself excellently. The 22-page booklet also

includes a description of the research and manufacturing techniques used by the world's oldest and largest weaver of glass-fiber fabrics. Burlington Industries, Inc.

On Free Data Card, Circle **222**

Contemporary Furniture Of Distinctive Styling

Handsome 64-page catalog has many photographs and specifications of contemporary furniture. Every need of residential and business interiors is met with these pieces. Wide variety of storage cabinets, bookcases, headboards, tables, and chairs exhibits the distinctive styling and handsome detailing that have made this firm a leader in its field. Jens Risom Design Inc.

On Free Data Card, Circle **223**

Technical Information On Fire-Alarm Systems

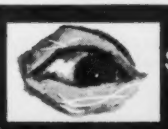
Fire-alarm systems for industrial, institutional and public buildings are covered in new 36-page catalog. In addition to descriptions of the company's "March Time," master-coded, and box-coded systems, there are illustrations of all components and accessory equipment. Typical job specifications are given for all systems. Standard Electric Time Company.

On Free Data Card, Circle **224**

Line of Church Furniture Includes Cushioned Pews

Complete line of church furniture—in contemporary, Colonial, and Gothic styles—is illustrated in 24-page brochure. All items required in the church are included: pulpit, baptismal font, communion table, chairs, pews, lectern, altar, guest register, flower

Continued on page 125



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Saves • TIME • MATERIAL • LABOR

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WEST CONCRETE FLOOR TREATMENT saves labor, materials and time. It can be applied immediately after troweling. Avoids delays after pouring. Replaces as many as three separate products and applications. Eliminates labor required for cleaning after delayed drying between the use of separate products.

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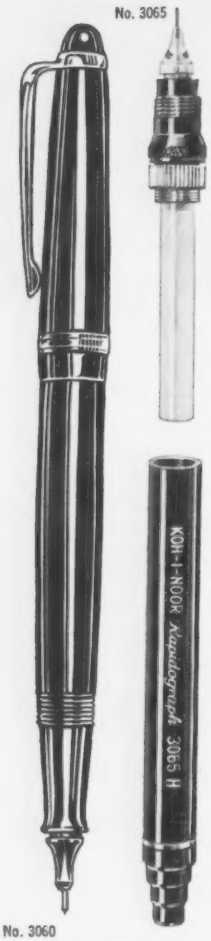
KOH-I-NOOR
PRECISION MATCHED INSTRUMENTS



Koh-I-Noor offers draftsmen an important new dimension in a comprehensive line of instruments and accessories meticulously matched to provide new high levels of professional performance, efficiency and convenience.

NOW... TWO KOH-I-NOOR RAPIDOGRAPH TECHNICAL FOUNTAIN PENS

In 7 "color-coded" precision line widths: 00, 0, 1, 2, 2½, 3, 4. Uses India (or regular) ink for ruling, lettering, tracing or writing with equal facility.

MODEL NO. 3065: A new model with 7 interchangeable drawing point sections, each color-coded to indicate a different line width. Best buy for the professional who requires frequent change of line widths. Each drawing point section complete with airtight refillable ink cartridge. Interchange is accomplished quickly, cleanly. Comes in handy desk top container.

MODEL NO. 3060: The regular Koh-I-Noor Rapidograph "Technical" Fountain Pen with self-contained automatic filling system, and pocket clip is a standard drafting room tool.

Two Koh-I-Noor products designed to work together . . . for greater efficiency!

KOH-I-NOOR
ADAPTO-CLUTCH LEAD HOLDER
Non-slip, turn-proof clutch takes full range of Koh-I-Noor lead.

KOH-I-NOOR
EJECTOMATIC LEAD DISPENSER
Automatically feeds lead to holder without need to touch lead. Transparent container permits constant inventory check on lead supply. In 17 degrees. Widest choice of containers with 2, 6 and 12 leads

Write for catalog

KOH-I-NOOR PENCIL CO., Inc.
BLOOMSBURY 2, NEW JERSEY

For more information, turn to Reader Service card, circle No. 331

For more information, turn to Reader Service card, circle No. 332

four Times Stronger than Concrete

Furane's Epibond produces a bond line between concrete and steel 4 times stronger than concrete itself

Now you can obtain a reliable, permanent bond between steel and concrete with Furane's EPIBOND Epoxy Dowel Grouting Compound — easily, at low cost. Regular caulking equipment serves in bonding bolts, dowels, rebar, ladders and other metal parts to concrete structures.

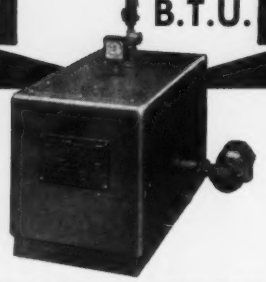
Epibond is easy to handle, non-toxic and non-dermatitic. It is thermosetting and cures chemically at room temperatures, for a bond completely unaffected by water or chemicals present in the concrete.

Coated with Epibond Dowel Grouting Compound, the steel dowel in the illustration is being positioned in the horizontal hole for permanent bonding into the concrete.

For information concerning the Furane solution to your grouting problems, write or call:

furane plastics, INCORPORATED Dept. SW
4516 Brazil Street Los Angeles, California CHapman 5-1153

ELECTRIC HOT WATER HEAT TO 2,000,000 B.T.U.



- **40,948 B.T.U. to 2,000,000 B.T.U. Output.**
- **All units meet the requirements of the ASME Boiler and Pressure Vessel Code.**

PRECISION *Electric* HOT WATER HEATING BOILER

- **Complete unit ready for installation** with circulating hot water system and water chiller for year-round air-conditioning.
- **Conversion easily accomplished** where other type fuels now used. Suited for homes, churches, apartments, hotels, motels, hospitals, commercial buildings, swimming pools, snow melting and domestic hot water. Temperature Range 60 to 250 degrees.
- **Every unit tested and inspected.**

Write for color brochure and prices.

PRECISION parts corporation
400- PA North 1st. Street
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No ducts! No noise! No chimney! No odors! No flame!

For more information, turn to Reader Service card, circle No. 333

FOR SAFE SLIP-PROOF SURFACES

Specify **EXOLON** *ANTI-SLIP* Abrasive Grains

Always **SAFE** Wet or Dry

Never **POLISHES SMOOTH**

EASY TO USE

Exolon Anti-Slip Electric Furnace Grain is easily troweled into the surface of concrete to give it hardness and wear resistance far beyond the usual Silica Sand mixtures. Never polishes smooth in heaviest traffic. Specify for SAFETY.

LOW IN COST

Available in Aluminum Oxide and Silicon Carbide grains. The latter is harder and adds sparkle and glitter to the concrete surface. It is a little higher in cost than Aluminum Oxide. Both bond with cement producing safe, non-slip surfaces.

Please send me

☐ Samples of EXOLON Anti-Slip

☐ Complete information and specifications.

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ADDRESS .....

CITY..... ZONE..... STATE.....

The EXOLON Company
1031 E. Niagara Street • Tonawanda, N. Y.

For more information, circle No. 334

Continued from page 123

stands, book racks, collection plates, etc. Unique "Cushion-Eze" pew seats have optional upholstery of naugahyde and foam rubber. The company's advisory services and manufacturing facilities are described. Endicott Church Furniture.

On Free Data Card, Circle 225

Flush-Mounted TV Installs in Any Wall

First complete line of "Mural TV," especially designed to be built into walls, is announced, with suggestions for various installations, in 14-page brochure. Installations shown are in interior and exterior walls, room dividers, cabinets, and closets. All controls are in front, on these flush-mounted sets, and ventilation is supplied by louvers to the left of screen. Depth of units is less than 12". Radio Corporation of America.

On Free Data Card, Circle 226

Automatic Conveyor For Vertical Distribution

A vertical conveyor, controlled by magnetic memory system, can solve multistory distribution problems with ease. Correspondence, policies, orders, and office supplies, are handled quickly and automatically. Express service from central record files and supply room to users is provided. *Bulletin 151*, 8 pages, describes operation and installation of "Recordlift" and includes detail drawings. Standard Conveyor Company.

On Free Data Card, Circle 227

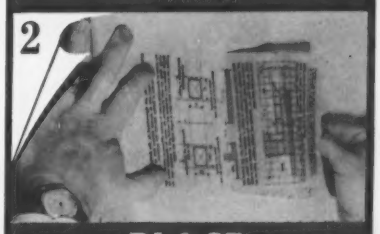
Polystyrene Drawers Have High-Impact Resistance

High-impact polystyrene drawers, which have unusual ruggedness and

Continued on page 126

THIS IS THE CORRECT EASY WAY

PEEL
the STANPAT from its backing.



PLACE
the STANPAT into position on the tracing.

PRESS
into position . . . will not wrinkle or come off.

Don't chain your engineers to time-consuming routine on repetitive blueprint items . . . free them for more creative work and save countless hours of expensive drafting time with STANPAT.

STANPAT prints these items on tri-acetate sheets that are easily transferred to your tracings. No special equipment required . . . reproductions come out sharp and clear . . . and STANPAT is incredibly inexpensive.

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☐ Kindly send me STANPAT literature and samples. Dept. 174

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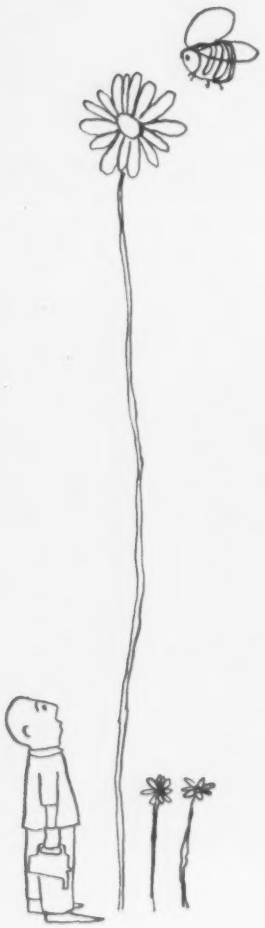
Balfour
rolling doors

deserve
your
attention



rolling steel service doors
doc-port® rolling steel pier doors
automatic rolling fire doors
pygmee® rolling counter doors
rolling steel grilles

Details in Sweet's or write for catalog.

Walter Balfour & Co. Inc.
Brooklyn 22, N. Y.

For more information, circle No. 336

Continued from page 123

resistance to damage, are described in 4-page brochure. Surfaces are smooth and corners rounded, for easy cleaning. Drawers install easily and glide noiselessly on smooth nylon pads with steel runners. Suggested uses are in residential, institutional, and commercial cabinet work. Wide variety of sizes fits almost any requirement. Also presented is a polystyrene "Tote Tray," particularly adaptable to school children's storage needs. Washington Steel Products, Inc.

On Free Data Card, Circle **228**

SURFACING MATERIALS

Bulletin Gives Current News on Formica

Formica World is a quarterly bulletin presenting news of that material—its uses in furniture, decorative murals, wall surfacing, and wall panels. New patterns are mentioned briefly, and available literature is advertised. Style

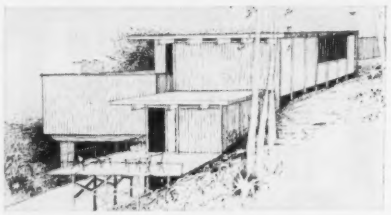
of presentation is easy-to-read, and projects will be interesting for their fresh solutions to familiar problems. Formica Corporation.

On Free Data Card, Circle **229**

Tile Colors Keyed To Plumbing Fixtures

Color Harmony Chart, in fold-out format, shows tile colors of full Romany Spartan line. Paper samples show matt, bright, or textured finish for buff and red body; pebble texture for unglazed tile; smooth or pebble texture for Dresden porcelain; and matt or bright finish for faiencette. Double-page chart suggests complete color schemes for bathrooms, combining tiles and accent colors with plumbing fixtures from specific manufacturers. United States Ceramic Tile Company. The Sparta Ceramic Company.

On Free Data Card, Circle **230**



Hardboard Uses Shown In Imaginative Designs

Imaginative adaptations of wide range of hardboard products make up 24-page *Masonite Contemporary Studies.* Delightful full-page ink sketches, which originally appeared in architectural magazines, are now accompanied by isometric drawings and section details. There is no text. Designs are for interior and exterior uses of panels, in both residential and commercial installations. Masonite Corporation.

On Free Data Card, Circle **231**

Aluminum Alloys And Surface Finishes

Comprehensive information, compiled to assist in selection of aluminum alloys and surface finishes for vast array of applications, is contained in new *Aluminum for Architecture.* The 20-page booklet contains guides to mechanical finishes, with descriptions of the various textured, bright, or satin surfaces, and the methods for obtaining them. Electrochemical and chemical finishes for varied exposures are listed similarly. Applied finishes (including porcelain enamel, baked enamel and primers) are also discussed. Concise charts list available alloys and describe their mechanical properties. A general outline is presented as a guide for specifying architectural aluminum. Metals Division, Olin Mathieson Chemical Corporation.

On Free Data Card, Circle **232**

PROGRESSIVE ARCHITECTURE
NEWS REPORT
REINHOLD PUBLISHING CORPORATION
430 PARK AVENUE NEW YORK 22, N.Y.

Publisher ..... D. Bradford Wilkin
Editor ..... Thomas H. Creighton
News Editor ..... James T. Burns, Jr.

See Booth No. 36

COPPER

simplifies plumbing in big addition to Children's Hospital, Pittsburgh

ARCHITECT'S RENDERING of Children's Hospital Addition (foreground) at Pittsburgh. *Architect*: Alfred D. Reid Associates, Pittsburgh. *Consulting Engineer*: J. A. Murray, Pittsburgh. *Plumbing Contractor*: Sauer, Inc., Pittsburgh.

MAKING A SOLDER JOINT on an 8-inch copper soil and waste line – the largest size used in the drainage system. Solder-joint connections are one of the important reasons why copper tube systems are so much easier and faster to ins.all.

TESTING A VALVE on the hot-water supply system. Other copper tube lines in view are part of the sanitary drainage system, ranging in size from 1½ inches to 4 inches. Because connections are easily made, even in tight quarters, the lines can hug the ceiling.

SOME 70,000 pounds of Anaconda copper tube were used in the sanitary drainage system, hot- and cold-water lines, oxygen, vacuum, and compressed-air lines of the addition to Children's Hospital in Pittsburgh.

Copper plumbing provides the advantages of easier, faster installation, with additional economies in design and construction made possible by the lighter weight of copper tubes and the trim, space-saving, solder-joint fittings. Equally important, however, are the long-range benefits. Copper tube systems last longer, require less maintenance than systems of other materials.

Everyone benefits with all-copper plumbing. Architects have greater freedom in design to locate bathrooms and utilities where desired without sacrificing useful space. Contractors report that installation time has been reduced up to one-half – and their men prefer working with copper tube. Owners get plumbing that lasts – costs little to maintain.

Anaconda Copper Tubes are available in all standard wall thicknesses – Types K, L, M, and DWV (Copper Drainage Tube) – through plumbing wholesalers. There's a full line of Anaconda wrought and cast solder-joint fittings. For more information on ALL-COPPER plumbing, write: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

5809

ANACONDA®

COPPER TUBES AND FITTINGS

Products of THE AMERICAN BRASS COMPANY

Available through Plumbing Wholesalers

For more information, turn to Reader Service card, circle No. 337

MAY P/A: HOUSES & LANDSCAPES, MATERIALS & METHODS, 1960-MODEL P/A

Residential landscape design will be the subject of the major presentation in MAY P/A. Three outstanding landscape architects will offer their individual philosophies and will comment on each other's work. The East Coast will be represented by James C. Rose, New York, and Karl Linn, Boston; Lawrence Halprin, San Francisco, will present the West Coast view. Six houses—from a vacation house to a town house—will illustrate the article. Technical articles will include information on concrete, stains, stainless-steel flashing, porcelain enamel, and prestressed steel *(below)*.

Just as architecture, to remain the vital force it is, must continually progress, so must an architectural magazine forever submit itself to examination and strive for improvement. In MAY P/A, you will see the results of months of planning, conferring, research, and design by the Editors and John Peter, architectural writer and design consultant. Goal of P/A remains—as it has been—to inform and inspire the *total architect*. This means not just a catalog of building presentations, but the creation of 12 issues a year which cover in striking graphic form all aspects of practice.

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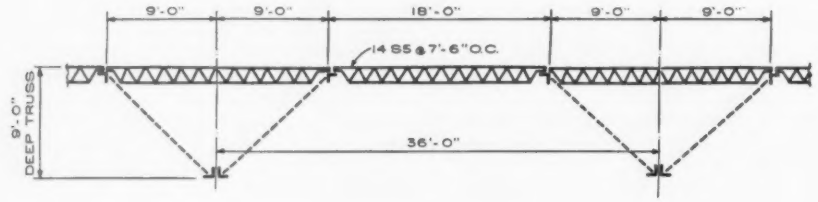

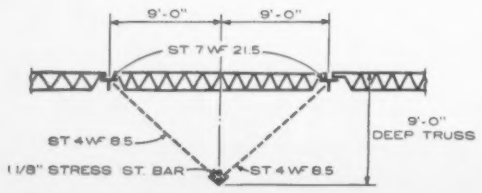

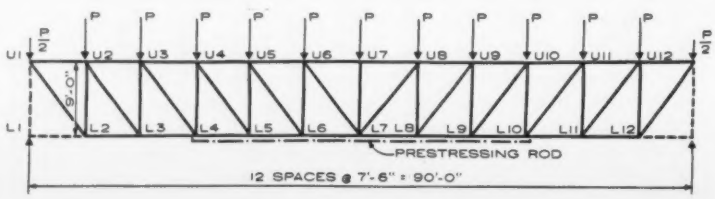

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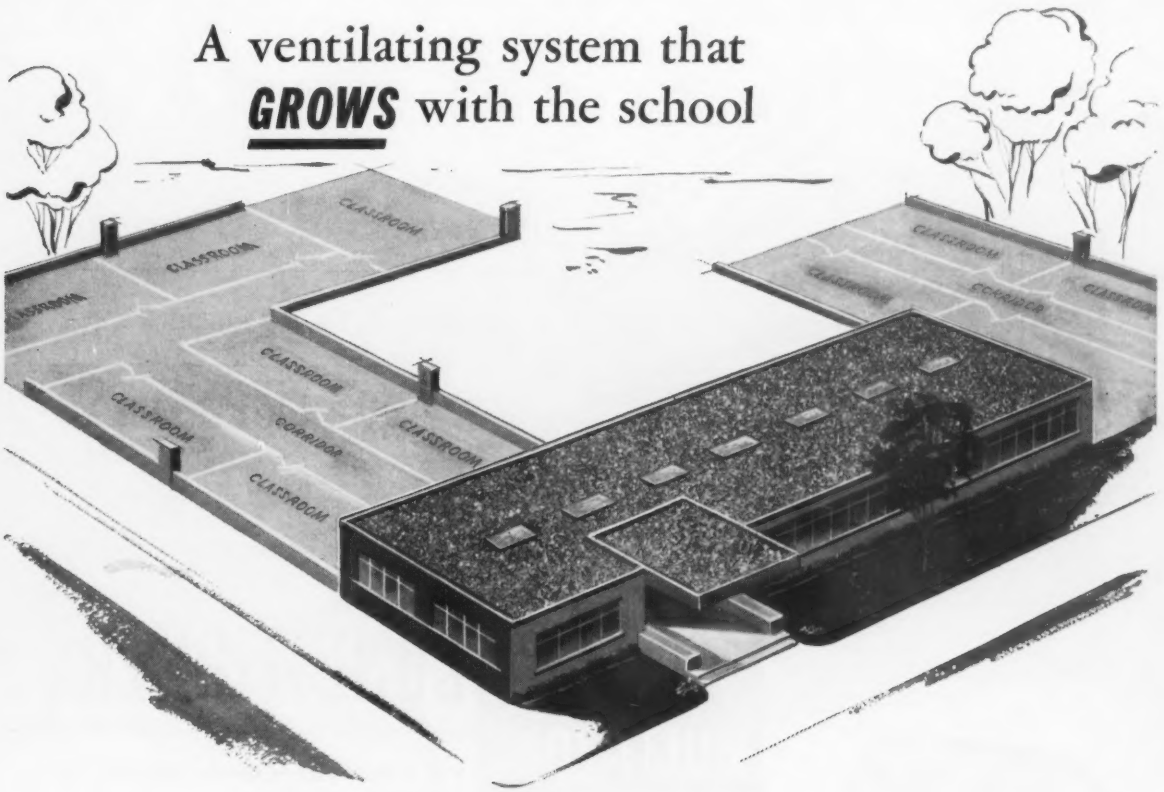

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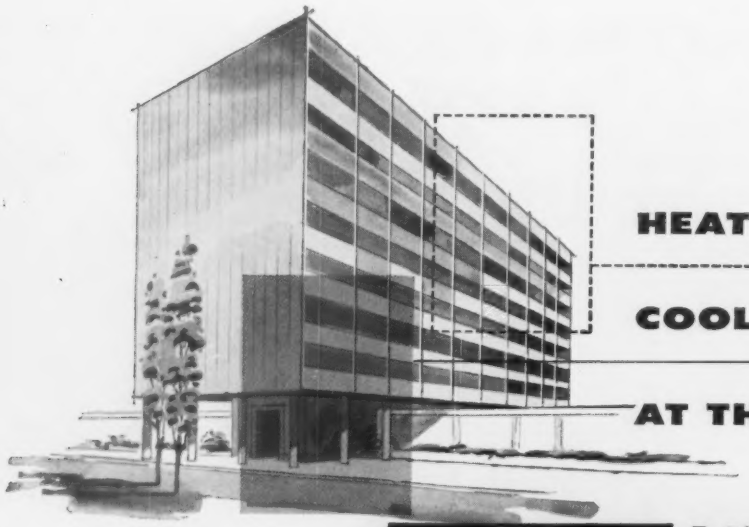

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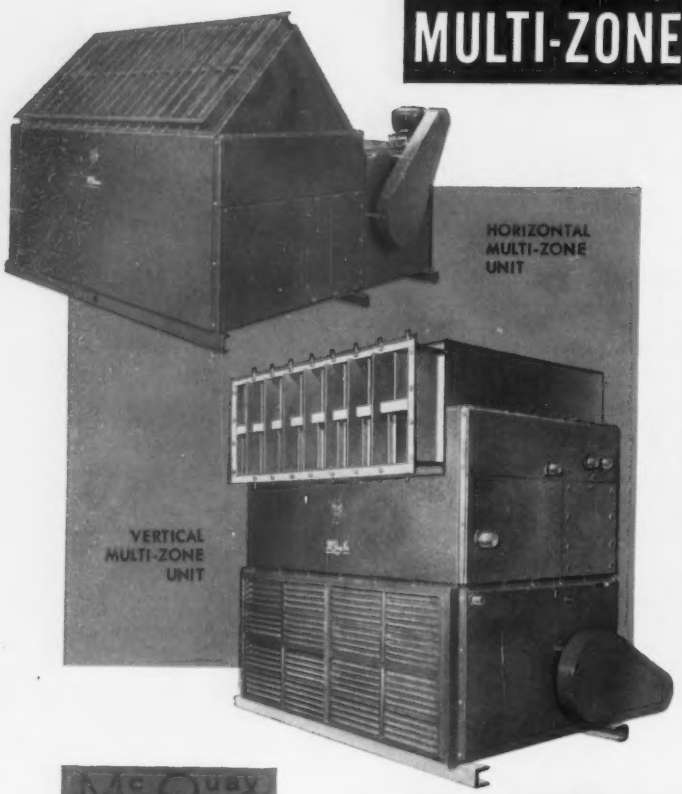

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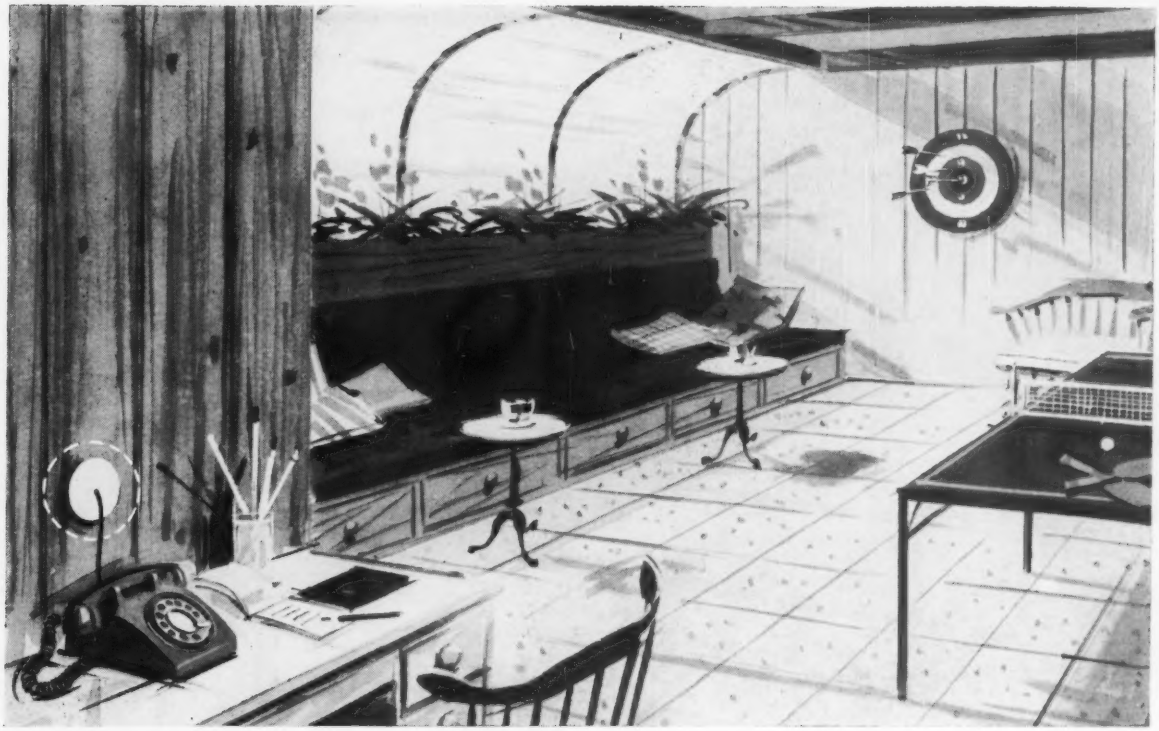

For details of home installations, see Sweet's Light Construction File, 11c/Be.

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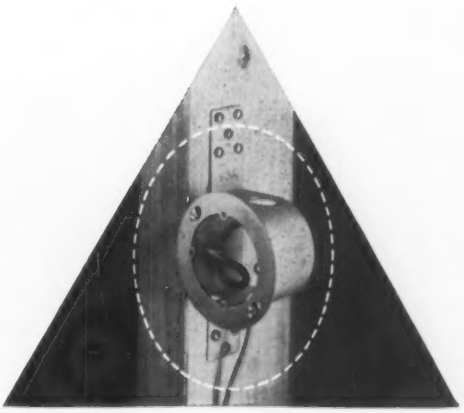
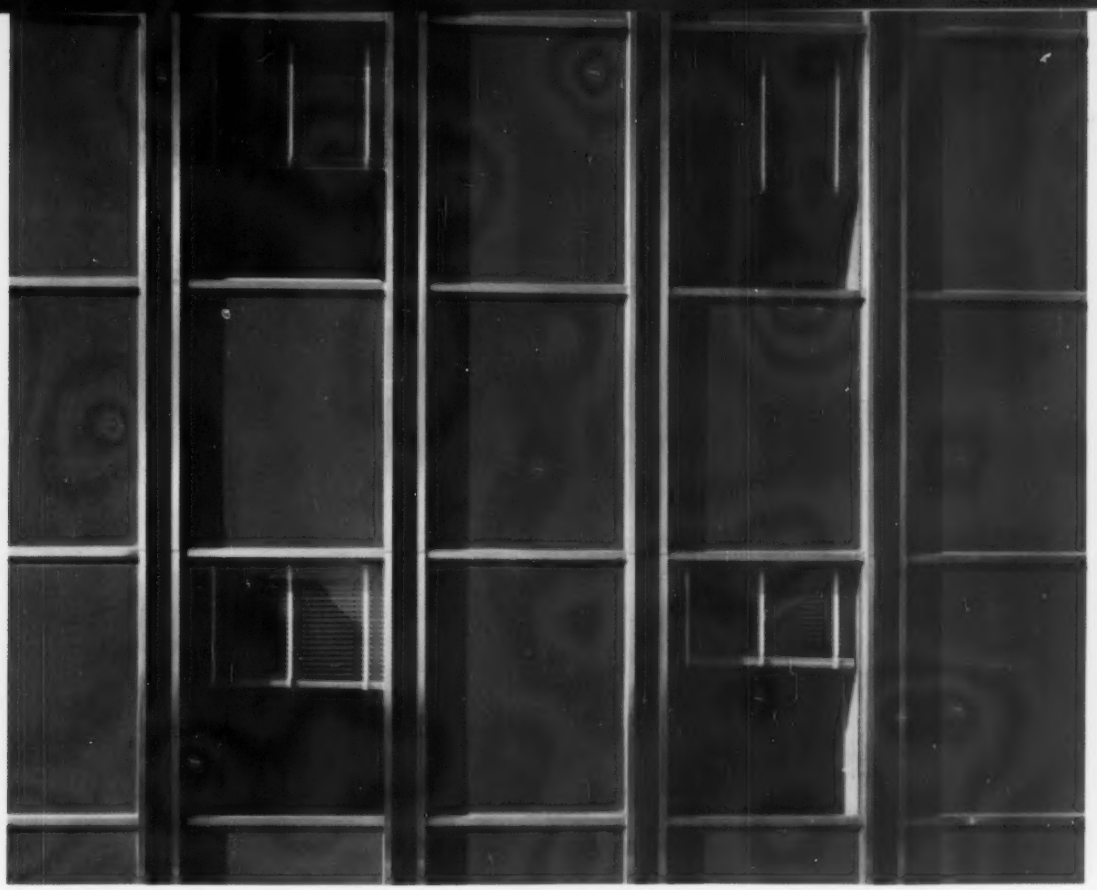


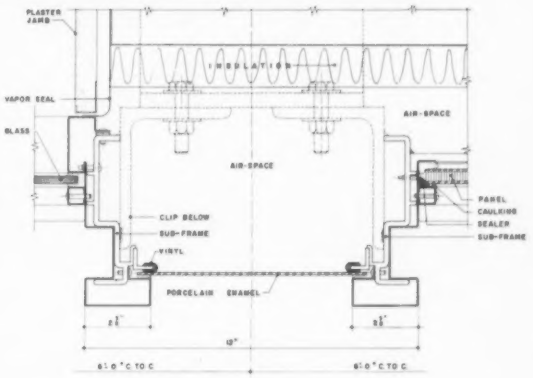
Bell Telephone System

There's a bright new splash of color on New Haven's skyline—the General Office Building of the Southern New England Telephone Company. Walls are of colorful porcelain-enameled steel and bright Stainless Steel.

Architect: Office of Douglas Orr, New Haven, Conn.; General Contractor: Edwin Moss & Son, Bridgeport, Conn.; Curtain Wall Contractor: General Bronze Corp., Garden City, N.Y.; Panel Fabricator: Ingram Richardson Mfg. Co., Beaver Falls, Pa.



New Haven's unpredictable weather played a part in the design of this curtain wall building. In order to eliminate damage to the insulation material by condensation caused by extreme temperature changes, air space between the outer panels and the insulation material attached to the inner walls has been provided for, allowing free flow of air. The stainless steel mullions provide for drainage as well as ventilation and by grooving these mullions, they perform an additional duty as track for a mechanical window-washing machine.



Typical panel and mullion construction.

The Southern New England Telephone Company started saving money the minute construction was started. Steel panels were prefabricated so they went up quickly while construction costs went down. Steel curtain walls are light, so less foundation material was needed and more money was saved. The owners moved in early because the building took less time to erect. There's a lot of rough weather in New Haven, but the porcelain-enameled walls and Stainless Steel mullions will keep their gleam for years to come. They won't fade or discolor, and a quick rain squall will wash them clean. Yearly maintenance savings will be as handsome as the building itself. Walls of steel are the key to this beautiful, functional, economical structure. There is no finer way to build a beautiful building. United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

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KENNETH REID

1893-1960

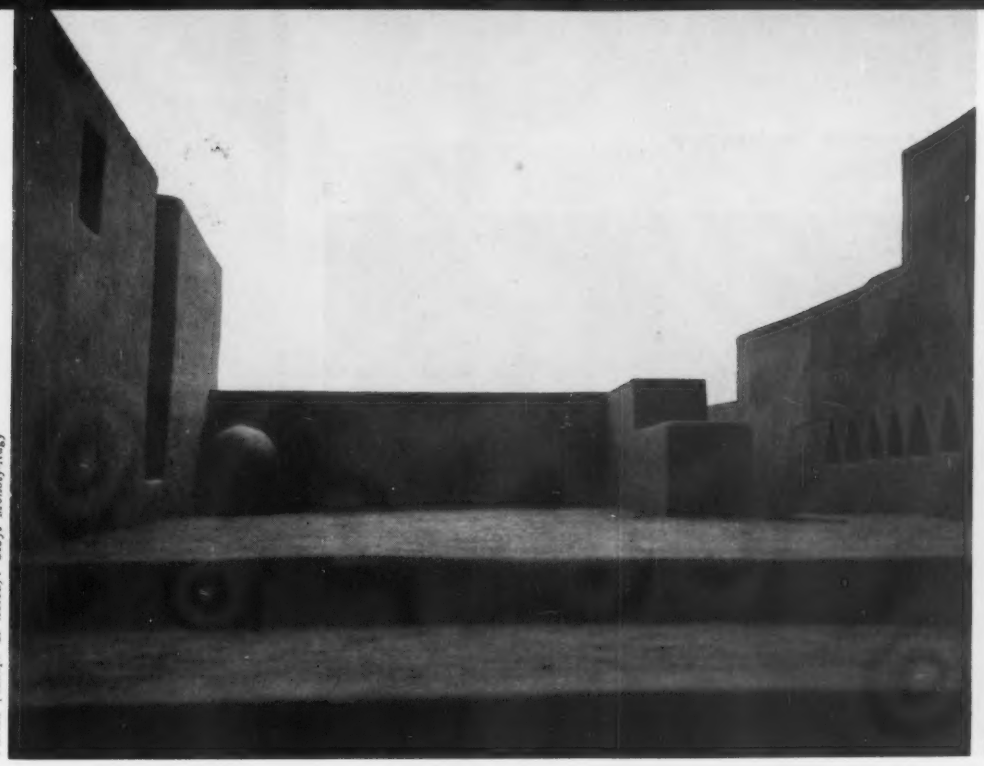
"I have lost a true friend," any member of the architectural profession from a nostalgic senior partner to the junior draftsman could have sadly remarked on March 16, when Kenneth Reid died at his home in Germantown, Pennsylvania, after a brief illness. As an editor of *Pencil Points* from 1926 until early 1947, when the magazine changed to PROGRESSIVE ARCHITECTURE he was steadfast in his defense of high professional standards and impartial in his support of all who were battling for their ideals during the design revolution of those troubled decades. Yet he always found time for genial visits with the men who sought him out or met him at professional gatherings, so that lasting friendships were formed with students, with architects, and with his editorial colleagues and associates.

Ralph Walker recalls, "In February, 1936, I was asked by Ralph Reinhold if I would take a position with *Pencil Points* as an Editorial Advisor. This was with full agreement of Kenneth Reid, then the Editor.

"We enjoyed two and a half years of very marvelous association. We planned and discussed many ways to make the magazine more effective. Being a "malahini," as the Hawaiians say, to the editorial field, I could have upset many an apple cart. It was Ken's fundamental good nature and his wisdom in the ways of promoting and putting a monthly periodical to bed; together with his ardent desire to develop a medium which would be capable of helping the architect as an artist, which made our collaboration possible and successful.

"I remember the simple charm of the man; the delightful pleasure of working with a person of quiet manner. We developed a long-lasting friendship."

Paralleling Ken's serious editorial program of serving the architects and offering each month in the magazine some article or reference material of use for the office and drafting room, was his keen appreciation of architecture as an Art. And surely a note is not amiss here on his fondness for good conversation, the French cuisine, impeccably dry martinis, and the time to enjoy them—Ken's interpretation of the best architectural way of life.



Photos (except as noted): Sibyl Moholy-Nagy

1

Some Aspects of South American Architecture

by Sibyl Moholy-Nagy*

Town planning, which is the relationship of buildings and population units to the site and to social and economic requirements of the community, presupposes teamwork and civic stability, which are alien to the South American temperament. A brief survey ("Some Aspects of South American Planning" in FEBRUARY 1960 P/A) asserted that Latin-American planners have not been very successful since the intuitive approach of the aboriginal cultures and the empirical settlement laws of the Spanish Conquistadores were abandoned. A comparison of South American planning with South American building design shows that the very same assertive individualism that thwarts co-operative projects, and the lack of binding doctrines —social, political, or esthetic—can generate considerable creative power in the work of individual architects. "Our shortcomings," said a wise man, "are the shadows of our virtues." The contracting approach observed in South American planning between *regionalists* and *internationalists* becomes more diversified in architecture. Man in nature, the traditional nature of man, and man the individualist furnish some of the many facets of person-to-person design. The common denominator is an energetic force, something of Aristotelian *energeiai*, "the realized state of potentialities," emanating from the single building, whose importance has been almost wiped out in the United States. Implicit in this energetic assertion is the importance of the architect, who

* *Associate Professor of Architecture, Pratt Institute, Brooklyn, N. Y.*

Gasparini

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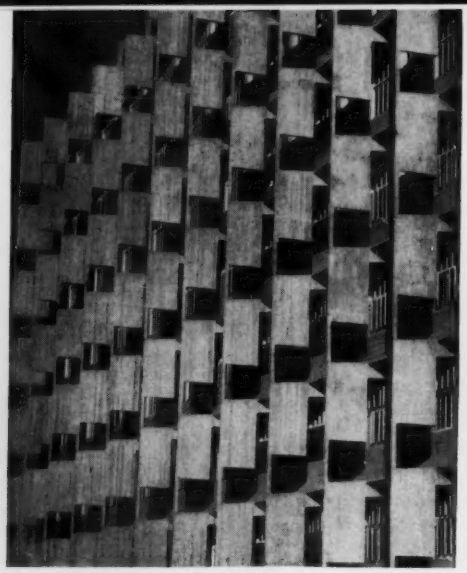

Gasparini

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Shell

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admits none of our critical indifference. This highly personal approach *makes the good better and the bad worse.*

The organic nature of man shaped the earliest extant architecture of South America long before the Incas reached the ocean. Puddled clay from the earth around it furnished the material for the stronghold of Puru Chuku **1** on the Pacific coast of Peru. "*El techo de Lima,*" that shroud of seeping clouds covering the coast of Peru for eight months out of twelve, inspired the Chincha to lay out wide airy courts which even on dark days guarantee light for the small interior rooms, whose construction methods did not permit large window openings.

The Caribbean has no "*techo.*" Along its South American coast, the sun is a menace from which to take refuge. Roman villas of the Spanish coast, colonial cousins to the Vetii and the House of the Faun in Pompeii, served as examples for haciendas. The lovely patio houses **2** of the Venezuelan and Brazilian countryside are very different from the austere geometry of Peruvian architecture. Forms and proportions are subservient to human comfort. The sheltering peristyle, the green carpet, and cool Moorish *azulejos* in rich colors cater in a refined way to the organic nature of man.

Sun too hot for exposure and the sudden floods of tropical rain remain constant while empires and centuries pass. Classroom buildings of the Ciudad Universitaria at Caracas, in Venezuela, were connected by the architect, Villanueva, with low covered walks, widening into plazas and patios where art and planting complement each other **3**. Even though the naked concrete seems in places too strong a contrast to the delicacy of the murals, there is airiness and rich visual articulation in the calculated play of light and shadow. This is achieved by a supreme logic of the column. No confusion here between the structural and esthetic function of the column and the wall slab, as in the Tugendhat House or the Villa Savoie. The sheltering roof is treated as a canopy, restraining but not excluding nature.

It is a compliment to South American imagination that the brise-soleil (today's deadliest cliché, from the North Pole to the Equator) can still produce new and startling solutions. The concrete sunshades **4** of Villanueva's School of Architecture, also in Caracas, give to a severely modular building a fine three-dimensionality that exhilarates the eye *if* the sun is shining. Seen in the rain they cramp the function of the windows with overemphasized design virtuosity.

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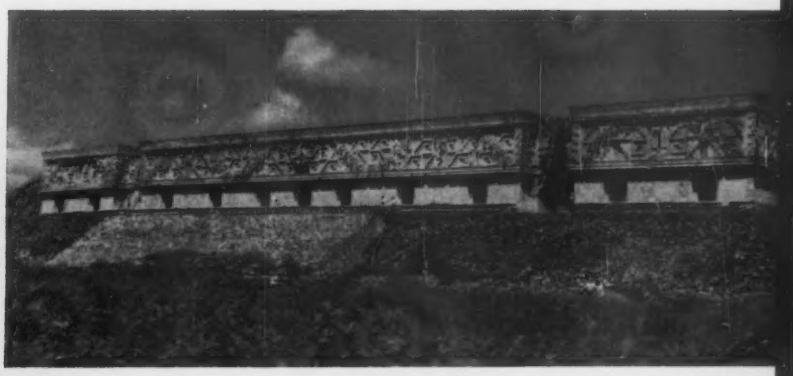

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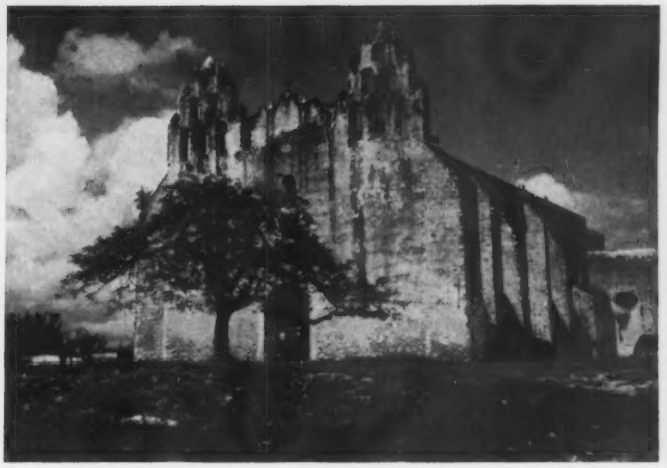

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The Central Vocational High School of Venezuela by Ernesto Fuenmayor achieves a synthesis between nature and technology **5**. Workshops and assembly hall, serving centralized and internal activities, are shielded from the sun by a dense concrete screen; but classrooms and offices can make contact with nature through window walls at carefully calculated angles.

Nowhere is traditional ritual of such importance as in civilizations whose historic memory is limited. South American designers have responded with imagination and reverence to the traditional nature of man. The Cave of Justice **6** above Cuzco in Peru is an impressive example of organic and traditional intuition. The site chosen at the height of Inca colonization needed few architectural features—primarily a narrow staircase to the right, where a curved bastion and an excellently worked masonry retaining wall are anchored in the natural rock. A huge boulder has been severed from the rear wall: *saycusca*, the weary rock, too big to move, integrated into the architectural scheme by a fine profile that corresponds to the naural ledge above. Inside the cave are a rock-cut ceremonial seat and bench ledges fashioned in a low, dark oval.

In Yucatan, Uxmal's Palace of the Governor **7** appeals to the traditional sense of authority, as the crypt in Peru appeals to the sense of justice. The terraced mount establishes governing power high above other structures, surrounded by a court of vast dimensions. The visual separation of space-enclosing and decorative mass refines what could be a surfeit of applied art. The baroque character of the symbols is relieved by the long perspective lines of the cornices. Doorways in well-detailed uniformity spell the depersonalized function of official architecture in a design idiom that is close to Miesian principles through its emphasis on proportion.

The Spanish Crown never built government palaces comparable to those of the Mayas or the Incas, who also had been usurpers among earlier inhabitants. The statement of colonial authority was rather the cathedral which, after the arrival of the Jesuits, became as standardized as a Skidmore, Owings & Merrill bank. But the poor friars of the conquest who preceded them did not build such copies; their memory of medieval church tradition and the empirical solution of static problems created a tradition for village churches **8** which is characterized (to quote Pasternak) by "shattering naturalness." Villanueva and Posan in *Iglesia 23 de Enero*, Caracas,

Casparini

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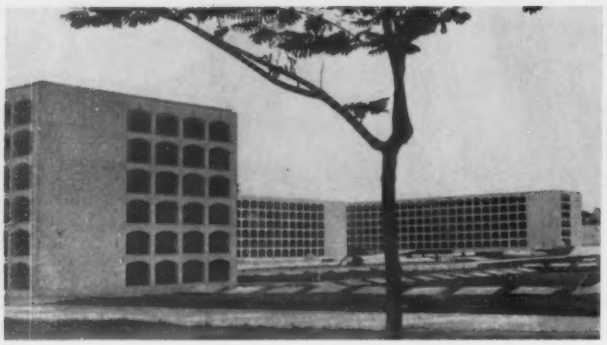

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Shell

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have caught this unselfconscious simplicity of the anonymous church for anonymous people **9**. It serves a low-cost housing project (whose quality we questioned in the context of planning). In contrast to the overdesigned residential blocks the church uses construction processes and materials simply and unostentatiously for the creation of both a long processional nave and the vertical monumentality of a high east elevation which combines façade and bell tower.

This same concord between man's tradition and his new building technique was the aim of Miró Quesada and Ortis Vega in their design for *El Angel* cemetery **10** just completed in Lima, Peru. The resurrection dogma insists on the preservation of the body in vaults whose shape has not changed from the Roman *columbaria*, which still exist in Ostia. Yet our eyes have become so used to modular construction and to planned grouping that these apartment blocks for the dead, stretching over several square miles, have an eerie contemporaneousness, even to the lettering of the "floors" and the lowrise/highrise rhythms supplying correct "distribution of volumes."

Sometimes this forceful expression of man's traditional needs becomes tender and nostalgic, like a folk tune lingering in the tropical air. The *Hacienda Chichen* **11** built in the early 17th Century in the inaccessible wilderness of Yucatan invokes the image of Italian villas—the pure Renaissance concept of the Agostini in Treviso, or perhaps an arcaded court by Herrera, the Spanish pupil of Michelangelo.

There are few prototypes in South American architecture. Organic influences and the jealously guarded traditions of a brief past have found as many interpretations as there were opportunities. Many more buildings than in North America go visibly beyond a merely adequate response to given natural, traditional, and functional conditions. They carry the imprint of the architect's personality like a signature or a finger print. Examples reach back into the anonymous past: the elegant detailing of a village wall **12** or the conclusive *art nouveau* façade of a pharmacist's residence **13** in Rio de Janeiro. What matters to us today is the escape from the international stereotype, the existence of Wrightless, Bauhausless, Miesless variation of 20th Century concepts. In North American architecture, technology has stifled the incentive to individual design with callibrated, predigested, standard solutions. In the South, technology has been eagerly seized as a new means of self-expression.

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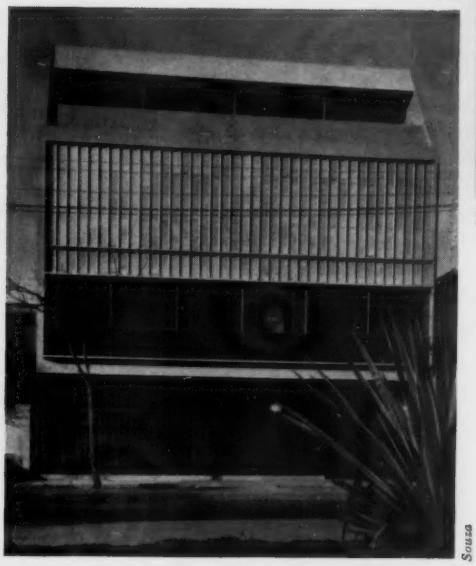

Souza

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Gasparini

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This is perhaps the most marked difference in the architectural approaches of the North and the South in the Western hemisphere, and it is a strong point of affinity between the Colonial Latins and those of Italy.

The *good is better* if the personality behind it is gifted. Jorge Moreira's Ceppas residence **14** in Rio de Janeiro is an interesting statement of climatic adaptation and aristocratic restraint. The accents are linear, the materials are technological, but a careful scaling of contrasts of light and shadow on the vertical metal louvers, on the horizontal blinds, and on the concrete frame lead the eye to the deep recesses of vestibule and roof terrace, thus assuring the third, the *architectural* dimension.

Santiago Agurto's Vocational Training Center **15**, in Huampani, Peru, is equally convincing, although it stems from the opposite approach. The whole building complex is open, diversified, and inviting to the eye. The various functions of a trade school are easily comprehensible from the outside. The rise and fall of the roof lines counterpoint the modulation of the mountainous backdrop; the hills are not excluded, they are underlined.

And the *bad is worse!* It is difficult to decide what is more unarchitectural—the giddiness of the modernistic "little jewel" **16** characteristic of the gift shop atmosphere of many South American suburbs, or the loft building disguised as a sophisticated statement of New Brutalism. The Morochos apartments **17** by Vegas and Galla in Caracas seem like a noisy English echo. Exuberant individualism can ignore nature and tradition, if it is creative and original: if it is neither, it destroys the visual landscape and substitutes no more than a technological finger exercise.

There remains the peculiar phenomenon of Oscar Niemeyer, whose work is considered in many circles the epitome of South American architecture. Yet he is typical only in his enigmatic personality and the intense emotionalism of his pronouncements. Le Corbusier's *Unités d'Habitation*, no matter where they stand, repeat two highly original paradoxes—modular universalism applicable only to *one man's* universe and the most brilliantly subjective treatment of architecture as sculpture. But what his master pupil, Niemeyer, repeats the world over is no more than a conventional concrete box, seven stories high, which does not even respect the diversity of function but forces ministerial offices **18** in São Paulo and apartments **19** in Berlin into the same

mold. When he breaks that mold and becomes sculptural, as in the church **21** for Brasilia, he permits himself a closeness **20** to his master that embarrasses the beholder like an indiscretion. Architectural *structure* can be copied; it is the result of impersonal forces. Architecture as *sculpture* is unique; if it is copied we react as we would to any plagiarism—we don't take it seriously. In Niemeyer's designs we tolerate the V supports although they are straight out of Viollet-le-Duc, and we accept the module of his glass walls although we know it from Le Corbusier's Swiss dormitory. But Ronchamps tuned down in Brasilia is quite another matter: it evokes anger and regret.

If this were all there is to Niemeyer he could easily be written off. But there is a third face, in addition to repetitiousness and the Corbu Fathercomplex. This is the face of a brilliant master of architectural form. The Palace of Dawn at Brasilia, overpublicized as a fig leaf behind which to hide the failure of the town itself, is a very beautiful building, and so is the hospital, *Sur America* **22** in Rio de Janeiro. It is abandoned, unused, and the structural pretense of the V-form pilotis was never more evident. But all this does not matter because the harmony of form and texture, and the modulation of volume by the light of its specific location, are perfect. One wishes for a turntable that would permit a continuous viewing of both elevations as pieces of art. These two works of Niemeyer, the palace and the hospital, may in the long view of architectural history mitigate the faults of his other work in Brasilia. They belong not above but among the best and most characteristic architecture of South America, which does not ape European prototypes or doctrines but proclaims with grace and energetic vigor a unique genius for architecture as an organic, history forming, self-expressive force.

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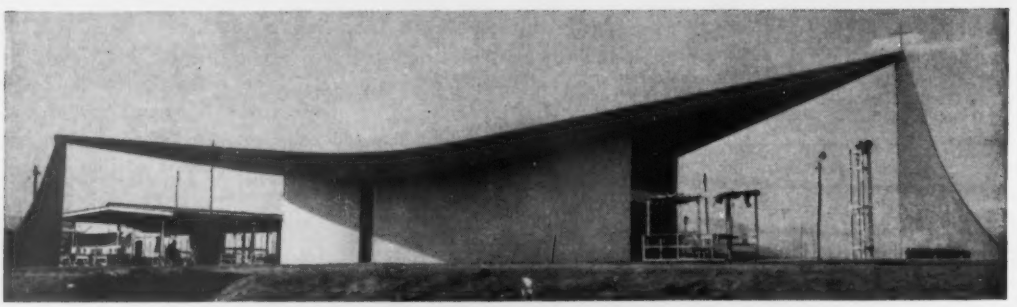


22

Gautherot

Young Firm Expands to International Practice

the architect and his community: *Curtis & Davis, New Orleans*

Since 1946, the year that Nathaniel C. Curtis, Jr. (Tulane '41) and Arthur Quentin Davis (Tulane '42, Harvard '46) formed their partnership, their practice has been eminently successful—their design efforts recognized by many important awards, including top honors in P/A's Design Awards Program. Completed jobs in the City of New Orleans alone add up to an impressive total, as documented in the aerial photo on the following page. In recent years their reputation has carried far beyond the city's limits. Currently on the boards are commissions of an astonishing variety representing a dollar volume, exclusive of work under construction, of $116,000,000. The rationale and practical implementation procedures which have contributed to the phenomenal rise of this firm are described on the following pages.

Photos by Frank Lotz Miller

The Architect and His Community: Curtis & Davis

"When our office was first organized," report Curtis & Davis, "we experienced tremendous resistance to the principle that we would design only contemporary structures." Such obstinate faith in a concept so little understood was unheard of in most of the country, and especially in tradition-bound New Orleans. Today, having held true to their convictions, even if it meant losing a much-needed commission, they feel the decision was correct. Though New Orleans was not at first receptive to their ideas, the partners, both natives of the city, feel indebted to the challenge and to the lesson of the great local architectural heritage. They are proud to point out the similarities between certain historical buildings and their own work. Problems of climate, for instance, had as much influence on the design of the Mansion in the Garden District (circa 1815) and the Labranche Building (1840) as they did on the design of the New Orleans Public Library (1958) and Thomy Lafon Elementary School (1954). Thus the screens, the arcades, the pilotis are to Curtis & Davis a vernacular architecture re-interpreted. The Upton House by Curtis & Davis simply recaptures the intimate atmosphere of Demoiselle Nancy O'Hara's house built in 1805.

It was perhaps this delineation of the similarities of approach of modern architecture and local precedents which persuaded many potential clients to accept modern architecture. "As long as our buildings are honest," says Davis, "we feel we can stand up and fight for them, even if they depart from the general norm or, for that matter, depart from preconceived shapes usually accepted by the community. We find that sincerity of approach is appreciated by our clients, but, in many instances, they become absorbed by the same spirit and not only become better clients because of this, but demand better buildings. They are much more discerning, and scrupulously analyze what we submit to them. We are firmly convinced that, in order to create good architecture one must fight for one's beliefs, and, at all times, must be willing and able to justify one's designs on such a rational basis."

C&D's first commissions were modest residential remodeling jobs. Then they were given a small, though important, new building. A mere fourteen years afterwards it appears difficult to believe that a flat-roofed house should have been the cause of so much debate and controversy. But, having succeeded in carrying out the design, C&D consider this house a significant turning point in their careers. Soon afterwards their first public commission, a school, was executed in collaboration with two other architectural firms. Then followed a school of their own design—the first one-story finger-plan school for New Orleans—recognized later with a national AIA award. Significantly, C&D have never been without a school commission for the New Orleans school system.

The successful execution of these first commissions, due to the simplicity and workability of their plans, quality of construction, favorable cost factors, and consonance with the environment are the factors which have built the sound foundation of today's flourishing operations. Now, their reputation extends far beyond the limits of New Orleans. Jobs are being

Curtis & Davis projects in New Orleans: **1** *Louisiana State University of New Orleans* **2** *St. Frances Cabrini School Plant* **3** *Luzianne Instant Coffee Plant* **4** *Arthur Q. Davis House* **5** *Union Carbide Building* **6** *Carver and Edwards Schools* **7** *Caribe Building* **8** *New Orleans Public Library* **9** *Maryland Casualty Building* **10** *John T. Upton House* **11** *Tulane Student Center* **12** *Thomy Lafon Elementary School* **13** *Terminal Housing Project* **14** *Giraffe House-Audubon Park* **15** *Medical Plaza* **16** *Julian Steinberg House* **17** *Immaculate Conception Church & School Plant* **18** *Lyman K. Richardson House* **19** *Mahorner Clinic* **20** *Karr Medical Building* **21** *Goldstein & Wexler Clinic* **22** *Gordons Transports Terminal* **23** *Southwest Steel Company Building* **24** *Harold Forgotston House* **25** *The Patios Apartments* **26** *Carrollton Shopping Center* **27** *N. C. Curtis, Jr., House*

Mansion, New Orleans (circa 1815)

Thomy Lafon Elementary School, New Orleans (1954)

Public Library, New Orleans (1958)

Labranche Building (1840)

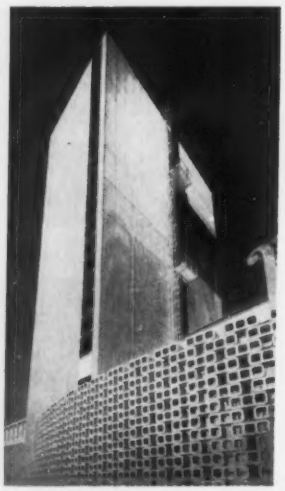
House for Demoiselle O'Hara (1805)

House for John T. Upton, New Orleans (1956)

Office building, Maryland Casualty Co., New Orleans

Church, Immaculate Conception, Marrero, Louisiana

Giraffe House, New Orleans Zoo

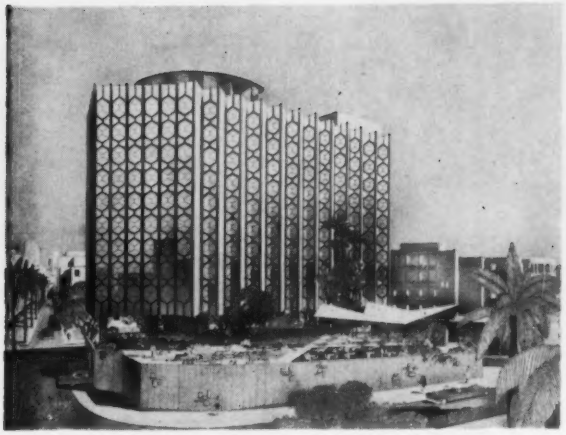


Plant, New Orleans

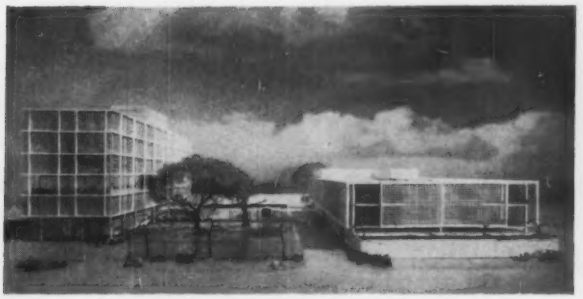
Louisiana State University, Master Plan, New Orleans

carried out not only statewide and nationwide, but internationally as well. Nevertheless, it is of interest that most out-of-town commissions have been awarded on the strength of completed local jobs. For example, four small hospitals within the state led to the 1200-bed University Hospital now under construction in West Berlin. A New Orleans hotel commission led to thirty-two hotels now under study for locations inside and outside the U.S. Two local plants engendered industrial architecture elsewhere. Two commissions for prisons followed the complete success of Louisiana State Penitentiary at Angola, which represents an architecture for the first time in concordance with modern penal philosophy. Angola has become a model of its type and its architects are considered experts in the field as a result of it.

To carry on these extensive operations, the office is presently staffed by forty persons. Among them are architectural designers and production personnel, a structural and mechanical engineering department, an interior design department, outside supervisors, and the usual bookkeeping and stenographic personnel. "We do employ mechanical, electrical, and structural engineering consultants," explain Curtis & Davis, "but having these departments in our office has proven of great value in the proper co-ordination of architectural, structural, mechanical,



Motor Hotel, El Miramar Charterhouse, San Juan, Puerto Rico. C&D with Angel Aviles

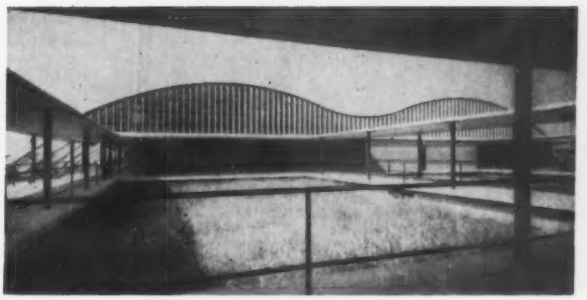


Embassy Compound, Saigon, Vietnam

and electrical services, especially during the early stages of design."

Each new commission is assigned to one or the other of the two partners for over-all responsibility. A job is then placed in the hands of a job captain and a staff team. All parts of the project including design are reviewed, checked, and criticized. "We encourage expression within our office for the good of the particular project." A large precentage of the staff is registered professional men, forming the nucleus of an eventually larger operation. To answer the growing demands of international commissions, a New York office has been established under the direction of Walter J. Rooney, Jr., with a staff of five. In addition to Partners Curtis **6**, Davis **4** and Associate Rooney **5**, there are three other architec-

tural associates: Sidney J. Folse, Jr., **7**, Kamlah L. Johnson **3**, and I. Mary Mykolyk; the two engineering associates are Aubrey G. Code **1** and William B. Settoon **2**.



Louisiana State Penitentiary, Angola, Louisiana

Medical Center, Free University, Berlin, Germany, C&D with Sherlock, Smith & Adams and Franz Mocken

Hospital

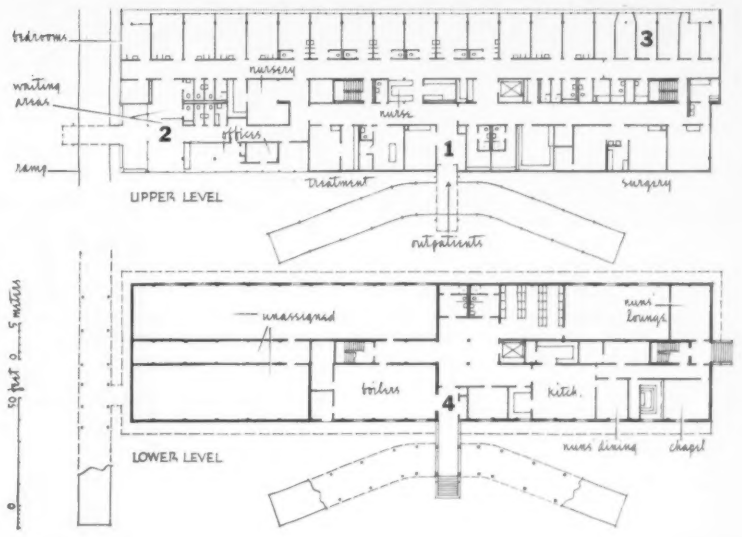
As in several of the earlier and later hospitals of this firm, Madison Parish Hospital in Tallulah, Louisiana, is also a raised-platform scheme with a one-level patient floor and a smaller, recessed service floor below. Again the main level is reached via a ramp, and a sunscreen sheathes the upper part of the building, concealing a window wall behind.

Site selection and placement of the building on the property were determined on the basis of appropriateness and convenience to traffic, roughly sorted into four categories: **1** emergency and ambulatory patients, **2** public, **3** staff, **4** service. Patients' rooms are located to face the most pleasant view, and to capture winter sun and prevailing breezes. Traffic lines within the building—accommodating staff, service, in-patients, out-patients, emergency patients, and visitors —are all completely separated in this plan and, of equal importance, properly controlled at strategic points.

For the construction of the hospital mat-type foundations were used, concrete basement walls, structural-steel columns and beams, precast- and prestressed-con-

crete floor and roof decking. The structural system was designed to accommodate a future third floor. Terra-cotta tiles were employed for the exterior sun screen, and frost-proof ceramic tile, stucco, and plate glass elsewhere at exterior walls. Of interest, mechanically, is the collecting of various exhaust ducts into single fan units located in two roof recesses, thus eliminating unsightly roof projections.

DeLaureal & Moses were Consulting Mechanical-Electrical Engineers; Flint Brothers, General Contractors.

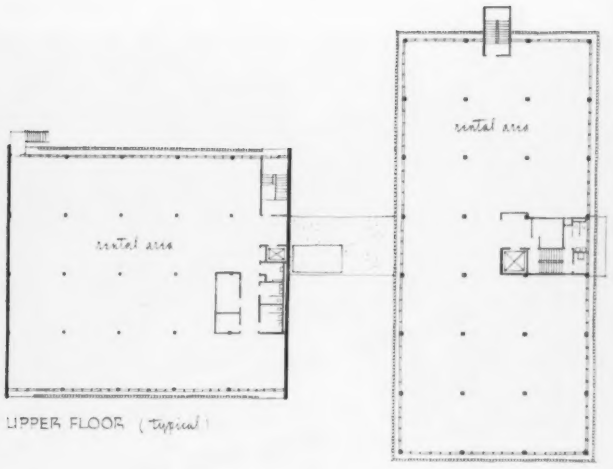


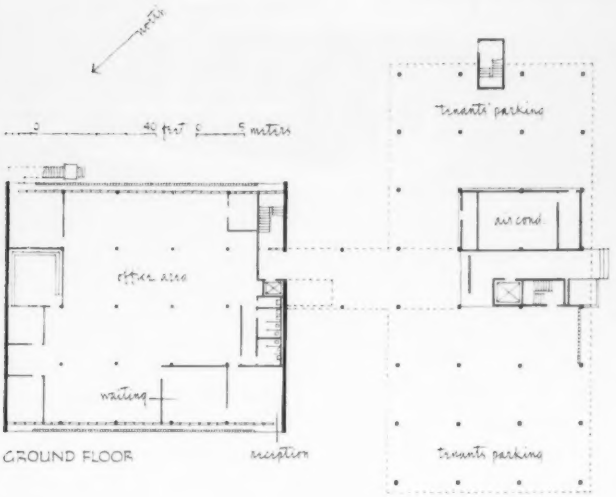
Office Building

The Caribe Building, completed in 1958, is of particular interest since it houses, among other tenants, the architectural firm of Curtis & Davis. It is located on New Orlean's famous Canal Street, a few blocks from the downtown business district, where the nucleus of a new office center is rapidly forming. Actually the 148'x203' corner site holds two separate building units, linked by a covered patio at street level. The larger of the two units, fronting on Canal Street, is four stories high, with three office floors and a covered parking area at ground level. The smaller unit is two stories high and fronts N. Rocheblave Street. "Both units," write C&D, "are protected from the hot Louisiana sun, sky glare, and tropical rainstorms by a decorative clay-tile sun screen set out from all window walls, designed especially for this building. The highly patterned, masonry, sun screen is reminiscent of the lacy metal-work adorning the façades of the historical buildings of the region, and affords privacy for the interior, eliminating the need for venetian blinds or draperies. The same principle is employed here in tile as that of the wood shutters used in New Orleans 100 years ago." The open patio on the ground floor which is the main lobby may be closed off at night by means of sliding glass doors, concealed during the day behind a mosaic-tile panel. The ground-floor tenant of the smaller unit has his own direct entrance from the side street.

Construction of the four-story unit is of reinforced concrete, pan-and-joist construction; structural steel and bar joists for the second-story unit. Exterior walls behind the clay-tile screen are bonderized-steel window walls; or walls surfaced with structural, glazed, facing tile. The building is fully air conditioned. Mechanical services are condensed into a central core around the elevator lobby.

Electrical Consultants were Mario Zervigon & Associates. R. P. Farnsworth & Company, Inc., General Contractor.





Curtis & Davis's own offices (above) *are on the top floor of the larger unit. The smaller unit* (left) *is set back from the street to provide visitor parking.*

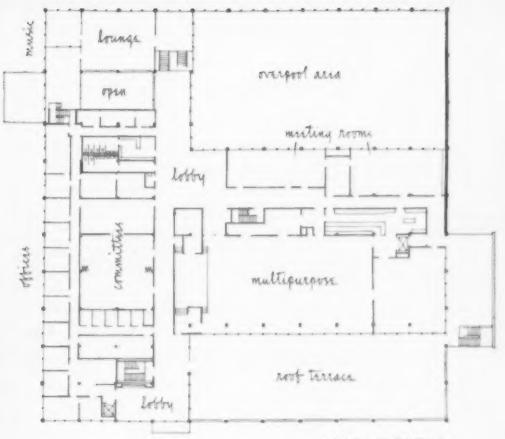
Student Center

Provision for many more elements than are ordinarily required for a student center made this building for Tulane University an unusually complex design problem. In addition to customary facilities, areas for the following services and activities had to be accommodated on the block-square site: a competition-size indoor-outdoor swimming pool (49′x75′), a large book store which is, in effect, a campus department store with receiving dock and stock areas, offices for student publications, building administration, and student personnel.

Curtis & Davis's solution was a three-story building partially sunk below grade level, so as to achieve two main floors, both only a half story from the street level. On the east the building faces the main campus street (*above*). The north side (*below*) opens onto a park. The skylighted pool and its terrace are oriented toward the south.

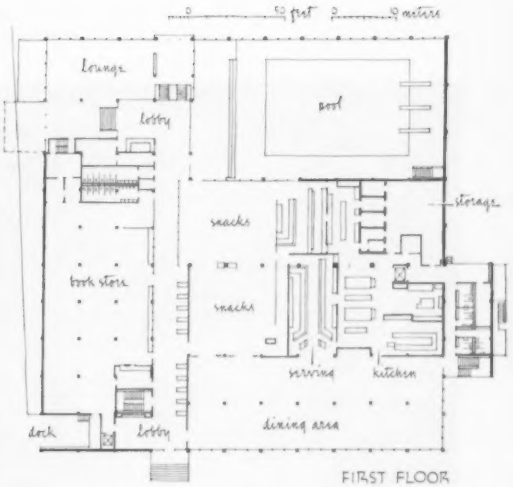
Because of the complex nature of the elements, more than one structural system was employed, including reinforced-concrete pan-and-joist construction, long-span steel trusses over swimming pool, and light-weight steel and bar joists for air-conditioning room.

Edward B. Silverstein was Associated Architect; Weil & Moses, Mechanical & Electrical Engineers; Bolt, Beranek & Newman, Inc., Acoustic Consultants; August E. Waegeman, Swimming Pool Consultant; Porter E. Butts, Program Consultant; Farnsworth & Chambers Co., Inc., General Contractor.

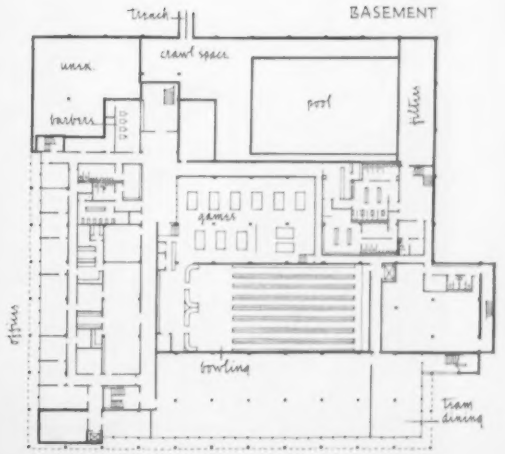


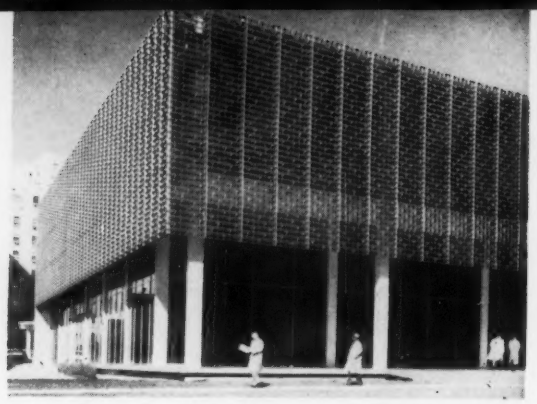
SECOND FLOOR

The main student lounge (above *and* below) *is at grade level, directly off the main entrance. Above it are a quiet student lounge and music listening rooms. For permanence and ease of maintenance, floors are generally 2" terrazzo on concrete slabs. The ballroom has a floating-type wood floor over cork. Wall surfaces are, for the most part, of plastic materials. A single-color palette was employed throughout, ranging from white-and-beige to orange-and-Van Dyke brown.*



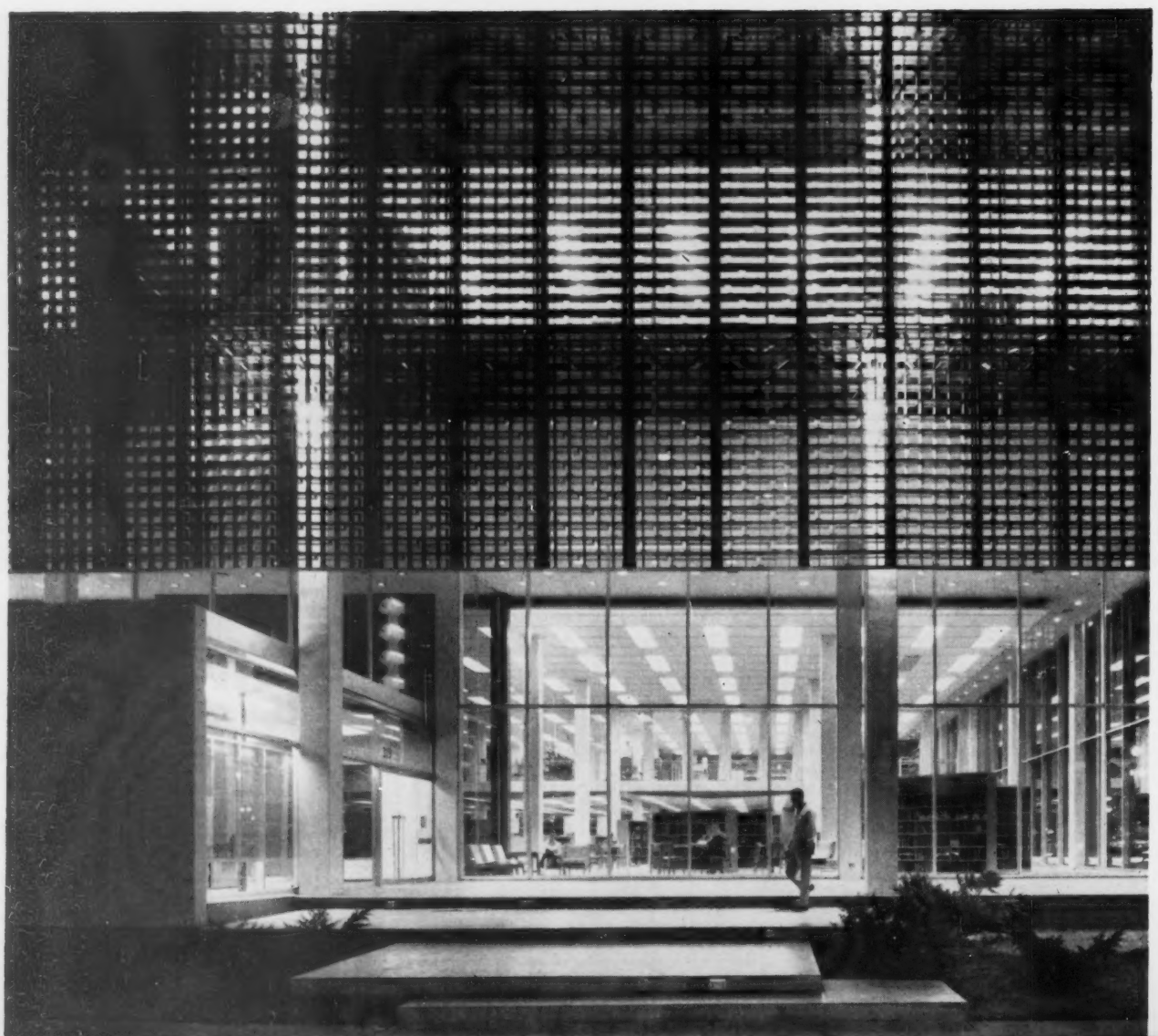
FIRST FLOOR





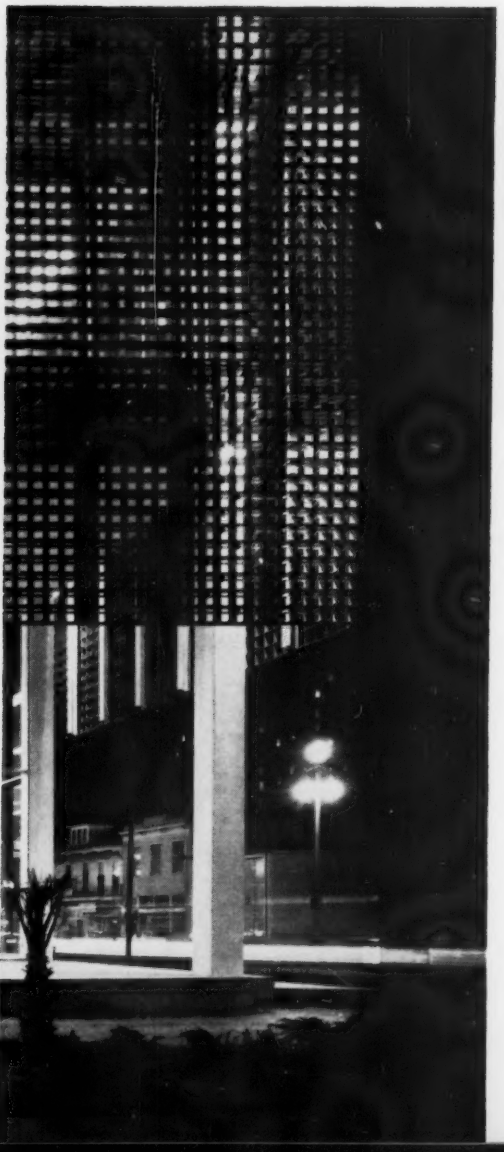
Library

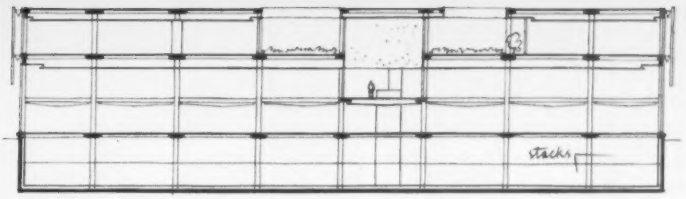
Several of the Jurors of P/A's Fourth Annual Design Awards Program considered this design for the Public Library of New Orleans by far the most outstanding of all projects submitted that year. In the interior, an ingenious system of horizontal and vertical space penetrations leads the eye from one area to the next, creating a visual flow, consciously designed to encourage "shopping" through the various departments. Similarly, the exterior is designed to be open to views from the Civic Center, on which the building borders. Above the ground level a sun screen envelops the glass structure, materially reducing glare and heat penetration, though still retaining the transparency and lightness of the total design. The sun screen is an "egg crate" made of a high-silicon-alloy capable of being anodized a dark gray, overlaid by a second screen of natural-color aluminum. To provide flexibility of interior arrangement, a modular ceiling grid was developed which accommodates



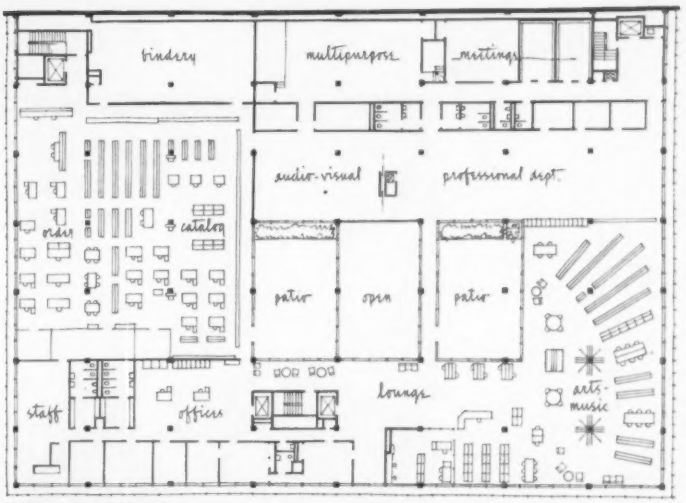
not only illumination and acoustical control but also provides for air-conditioning supply.

Associated with Curtis & Davis were the two firms of Goldstein, Parham & Labouisse and Favrot, Reed, Mathes & Bergman. DeLaureal & Moses were Consulting Electrical Engineers; Weil & Moses, Consulting Air-Conditioning Engineers; Joseph Pazon, Consulting Mechanical Engineer. Mayer Godchaux was Mechanical Contractor; R. P. Farnsworth & Company, Inc., General Contractor.

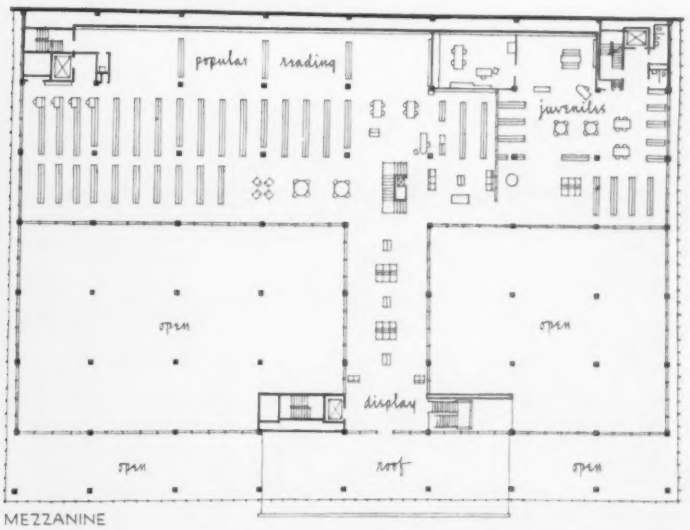




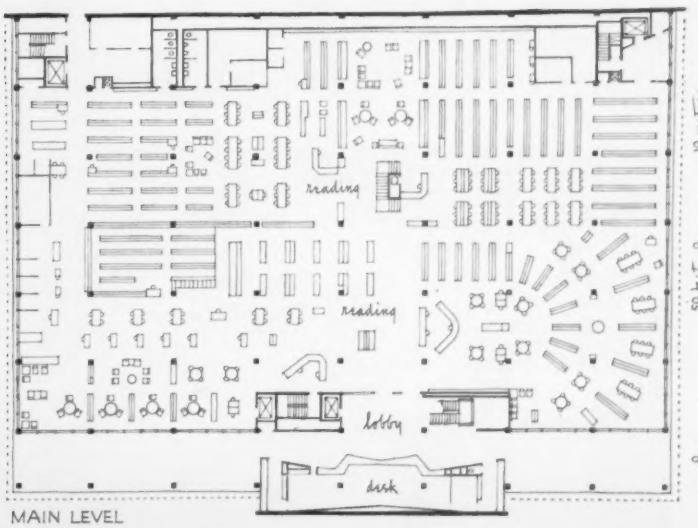
SECTION



SECOND MAIN LEVEL



MEZZANINE

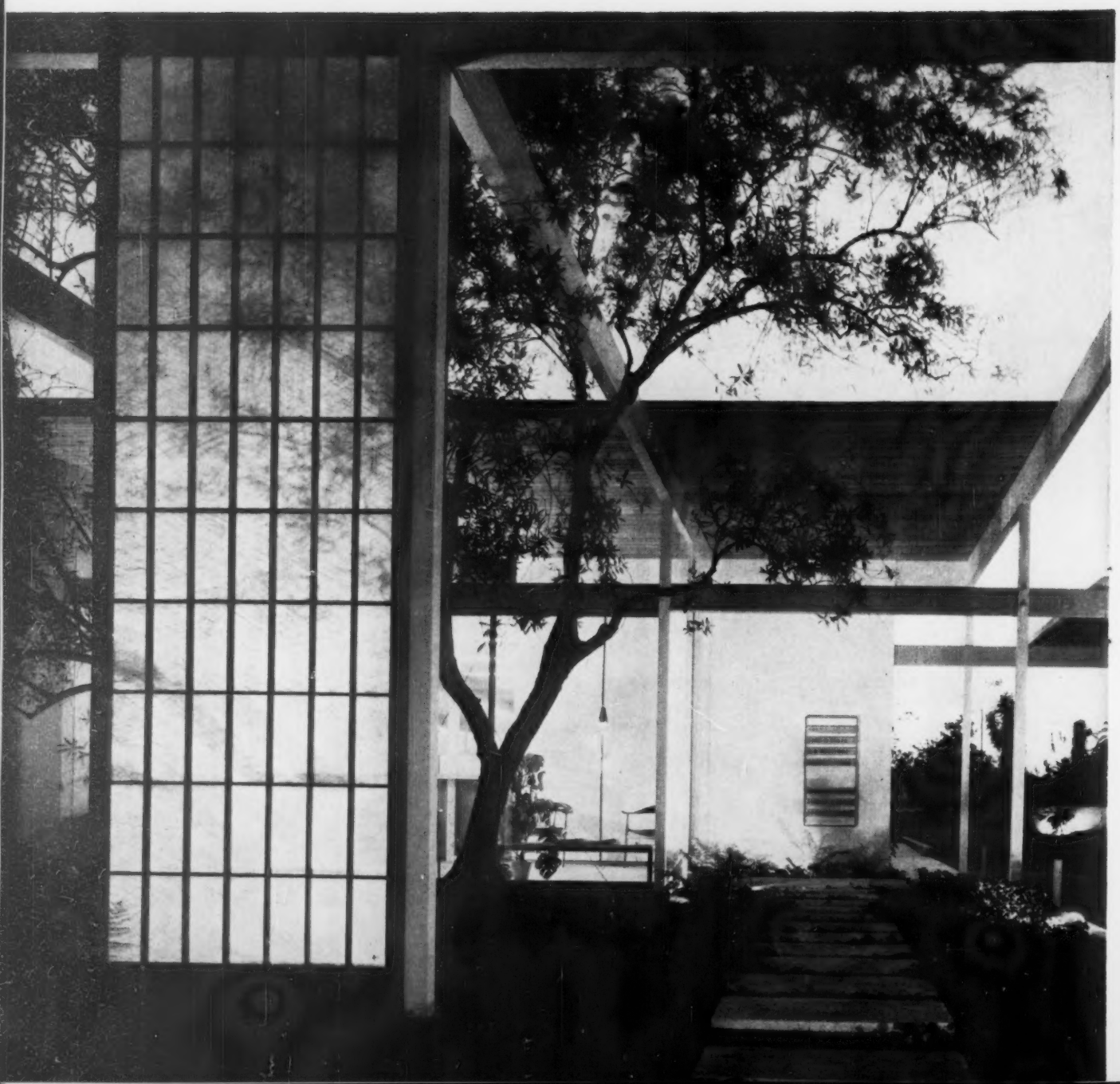


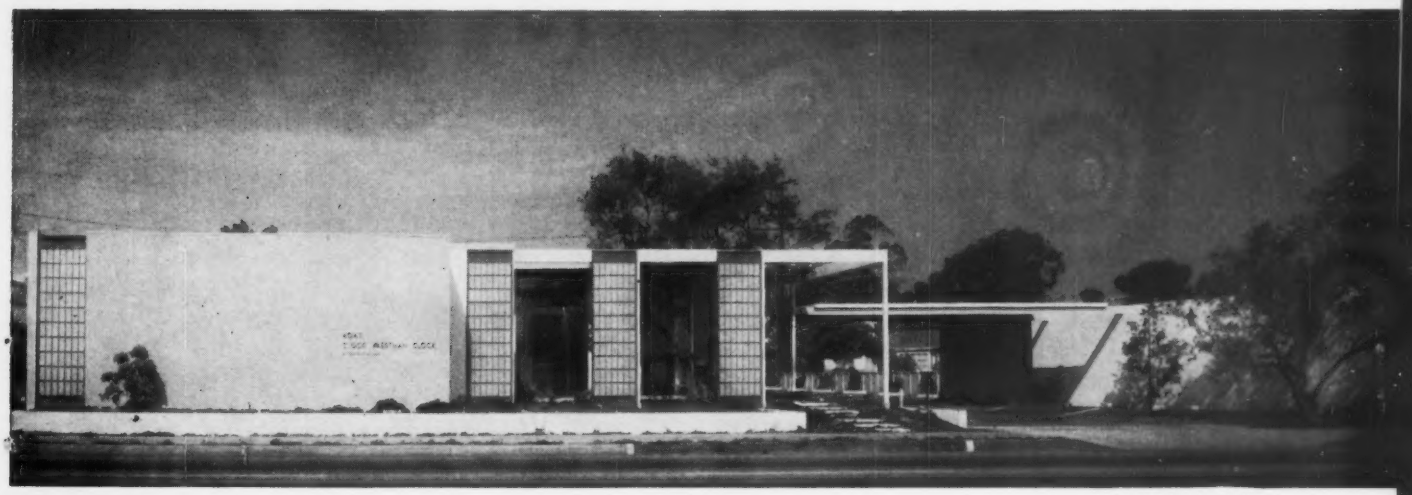
MAIN LEVEL

Visual continuity is evident in all directions, particularly in the center of the library (above) *where two patios and an open well serve to unify all levels. Though artificial lighting is well resolved, the importance of daylight, as a strong factor in design, has been fully recognized and exploited. Views of the sky and of attractive outdoor terraces enhance the appeal and rewarding qualities of the interior spaces, for which Curtis & Davis are noted.*

lawyers' offices

location | Long Beach, California
architect | Killingsworth, Brady & Smith





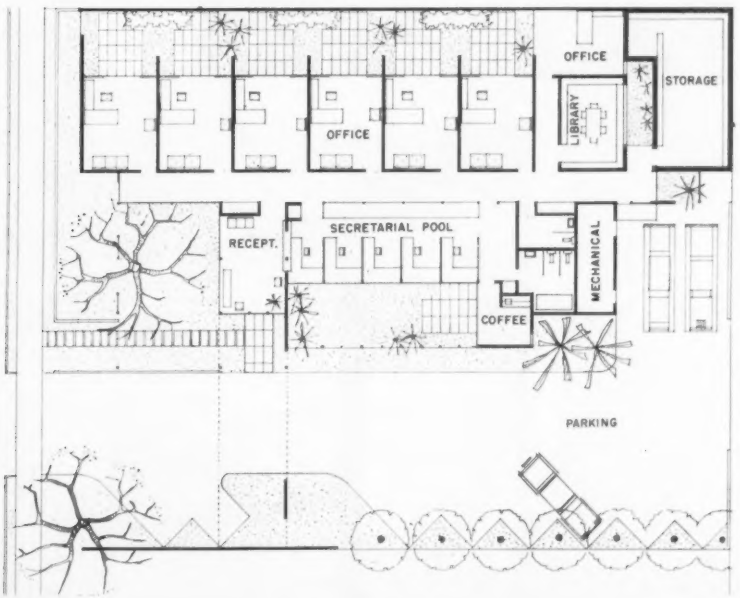
Photos: Marvin Rand

Screened gardens form a buffer zone, isolating this small office building from the street and neighboring properties. The site, a 100'x130' business lot on a noisy major boulevard, is almost completely enclosed. Every interior space is given its individually-designed court outlook—a scheme commended by the Jury for the AIA Southern California Chapter in 1957, which selected this as one of the five best buildings built in southern California within the past five years.

At the front of the building tall, decorative, shoji screens shelter and partially reveal the entrance garden court and glass-walled reception room beyond (*left*). Extending along the south side of the building, six offices for the lawyers overlook a 12'-wide quiet garden, entered from each office through sliding glass doors. Projecting walls between offices afford privacy for each. The office for the secretarial pool is divided into individual cubicles by partitions which give each secretary privacy. This space and the combined coffee and lunch room view a sheltered garden. The library faces an intimate garden which it shares with the rear entrance. Colors are sand with white trim, accented with white, brown, pale blue.

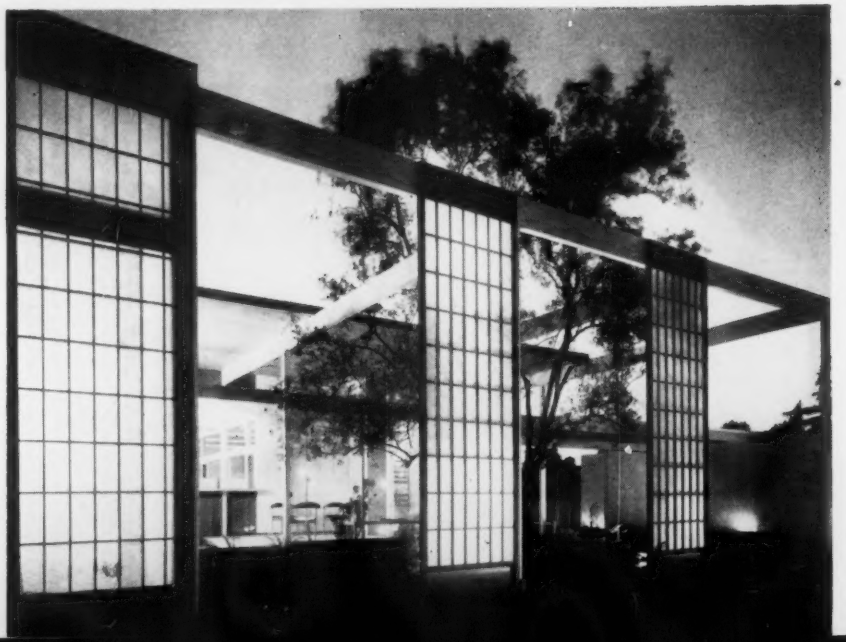
The structure is wood frame with exterior walls of concrete block and stucco; interior walls are plaster; floor is concrete slab, surfaced with vinyl tile or carpeted; ceilings are plaster, wood decking, or acoustic tile.

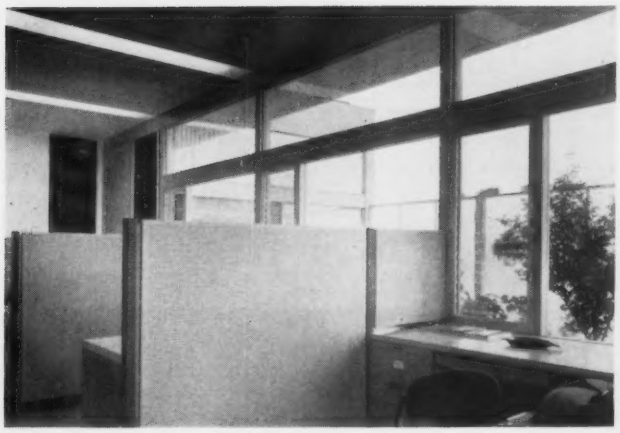
Stan Young of Frank Brothers was Decorator; Edward R. Lovell, Landscape Architect; John E. Denton, Mechanical Engineer; Wallace L. Wilson General Contractor.



lawyers' offices

Screens shielding the courtyard from the street are supported on 4"x4" posts, 4"x12" beams. Reception room and porte-cochere (above) *are roofed with 2"x3" laminated decking exposed as ceiling. The architects' care for detail extends to the paving of the quiet south garden outside the lawyers' offices* (acrosspage top), *with its redwood rounds set in concrete surfaced with polished rock; for the entrance walk* (acrosspage bottom), *precast stepping stones on paved concrete bases are used.*





Space for the secretarial pool (photos above) *is enclosed by walnut-and-glass partitioning, as is the counter connecting to the reception room* (just above). *Individual desks* (top) *are divided by partitions which have an acoustic core; counters and cabinets are surfaced with plastic laminate. Lighting in the office space is recessed in the ceiling.*

seamen's building

location	San Pedro, California
architect	Carleton M. Winslow
project designer	Warren Waltz
associated architects	Joncich & Lusby

A haven where merchant seamen may worship, relax, and study, The Seaman Church Institute of the Episcopal Diocese is a purposefully non-institutional and non-nautical building. Seamen on shore. their response to questions showed, prefer not to be surrounded by discarded binnacles and life preservers.

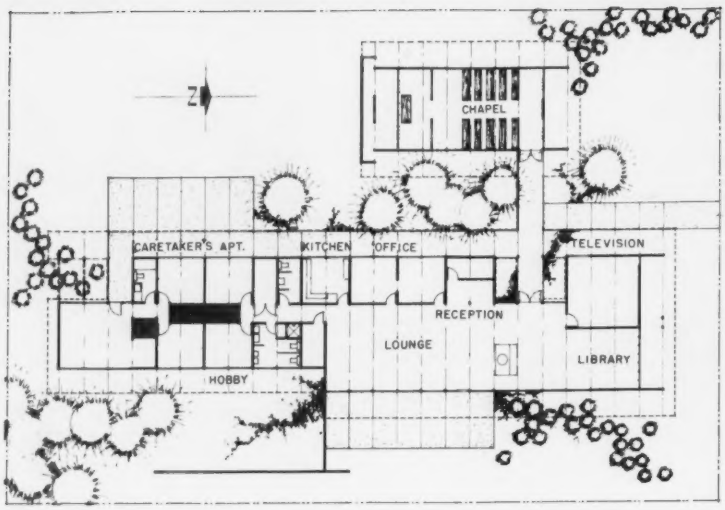
The seamen's center required recreation, study, and worship facilities; administrative offices; and staff sleeping facilities. In the past, centers also provided low-cost sleeping accommodations for the seamen—facilities not required here, however, because salary conditions in the trade have now improved.

Located on a flat, rectangular site overlooking the harbor and passing ships, the center consists of two units: the small chapel with its high roof, for greater importance, and the larger low-roofed recreation and administration unit. Unity is achieved, the architects explain, by using the same type of wood post-and-beam structure in both units. The wood-frame structure, on a concrete slab, has stucco, redwood siding, and fixed or louver-glass-filler walls. Ceilings are the exposed roof decking. Flooring is vinyl asbestos. Incandescent light is provided by decorative suspended fixtures, heat by a hot-water radiant heating system.

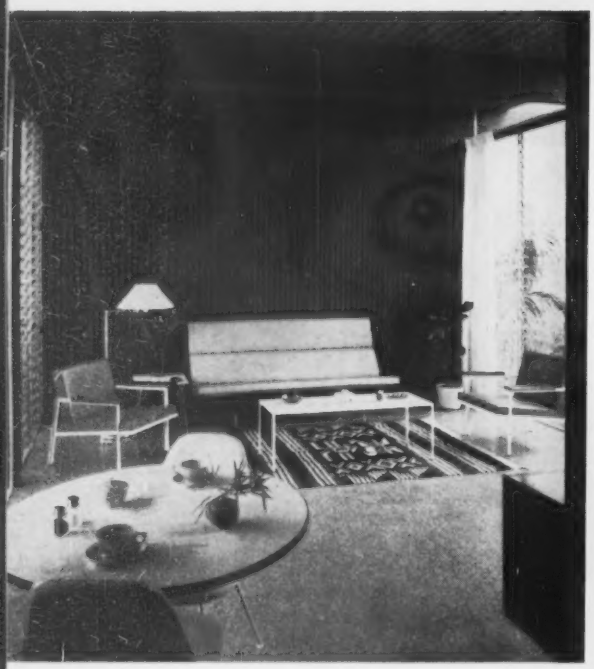
Warren Waltz was Landscape Architect; Eugene D. Birnbaum & Associates, Structural Engineer; Frank Sebesta, General Contractor.

Photos: Marvin Rand

Recreation facilities for merchant seamen in the low unit are clearly separated from the high-roofed chapel (left) with the entrance between the two units. The architects state that a spiritual overtone is felt, on coming and going into the main building.

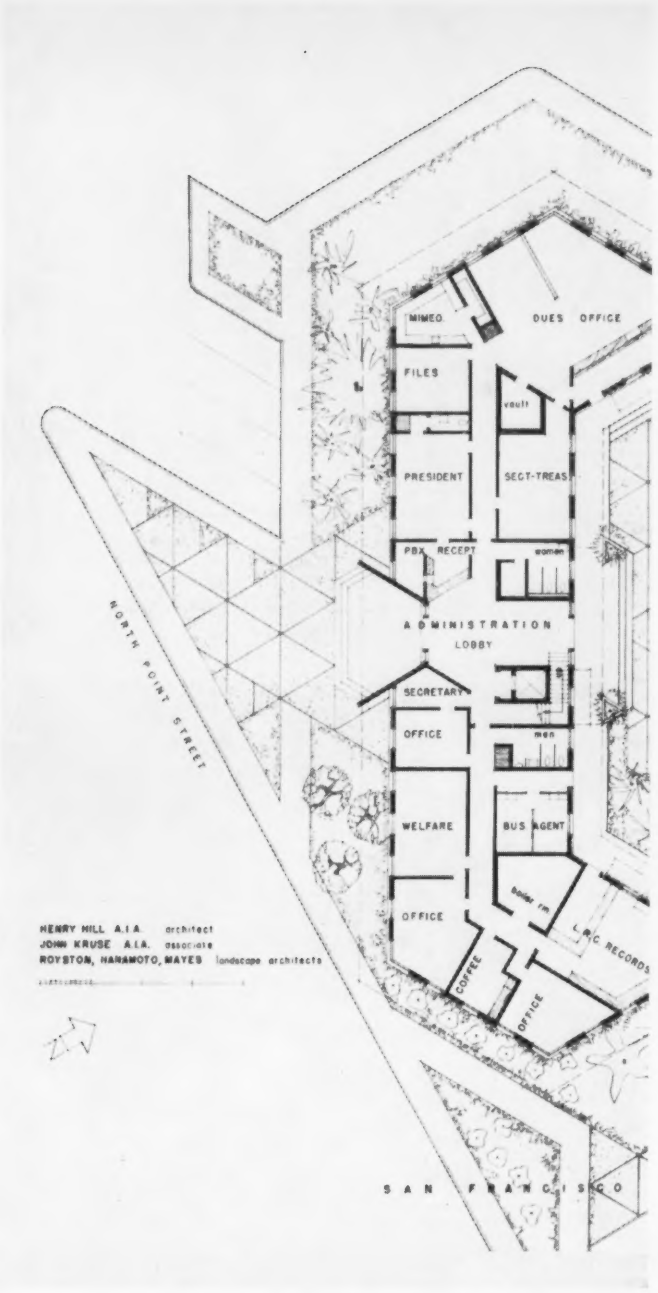


Art enlivens this restrained chapel interior. The cross in the garden and the altar (below), *made of colored glass embedded in plastic by artist Dale Owen, are both seen against a free-standing plaster wall. The narrow stained glass panels were designed by The Wallis Wiley Studio, the sculptured ceramic placque* (right) *by Betsy Brown, furniture by the architects.*



The exposed post-and-beam structure was the architects' answer to the request that the building be "as warm and friendly and homelike as a . . . cottage." One of the finest parts of the building, they believe, is the color treatment in the interiors: red doors, yellow chairs, and small accents of bright color in furniture contrasting with large areas of wood and white plaster.

The entrance to the lounge (acrosspage) *is directly opposite the chapel. One end of the lounge houses a library* (right *and* below), *next to a television room. Offices* (below right) *and a kitchen extend along the west side; staff sleeping quarters are at the south end.*

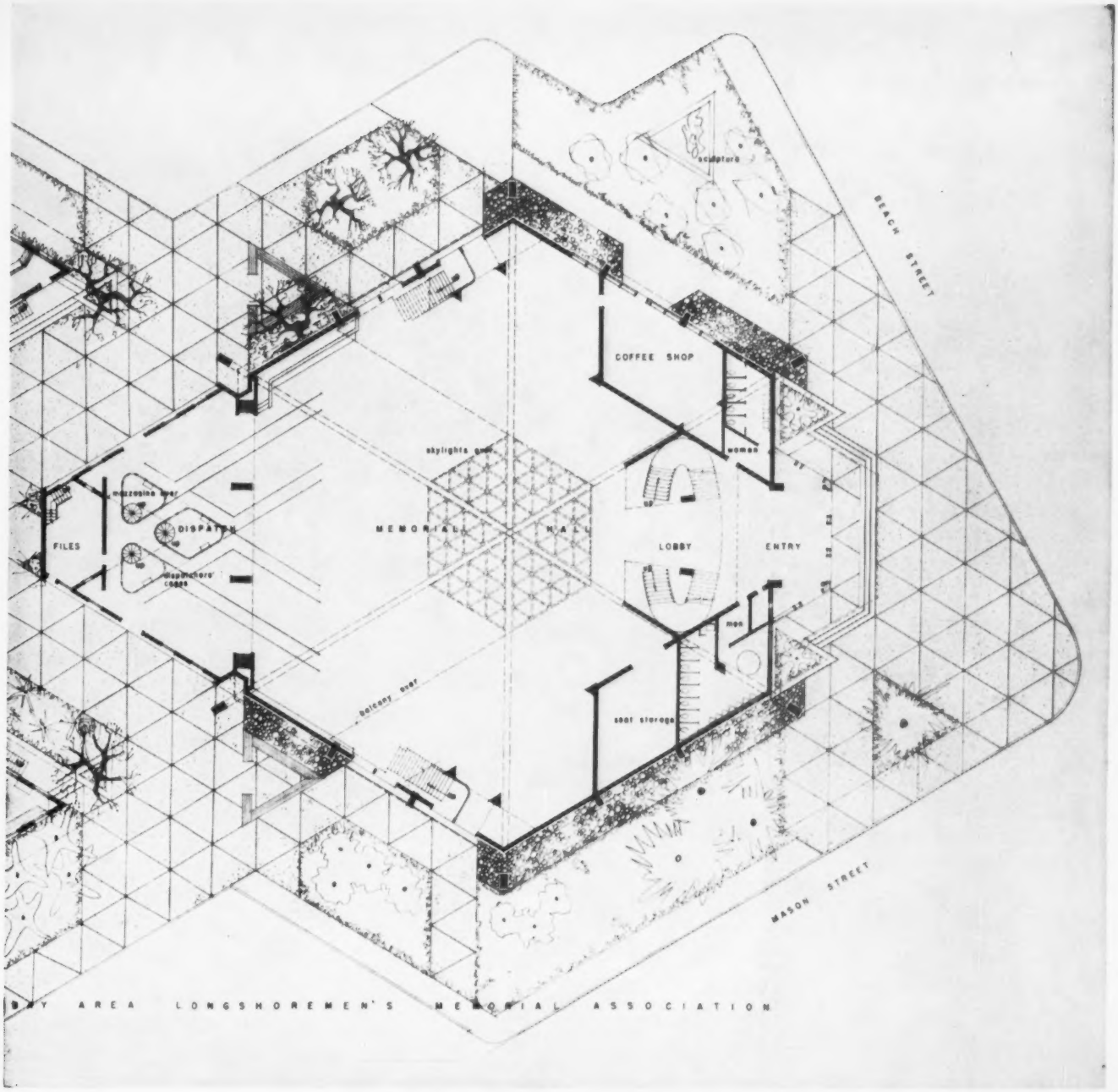


longshoremen's building

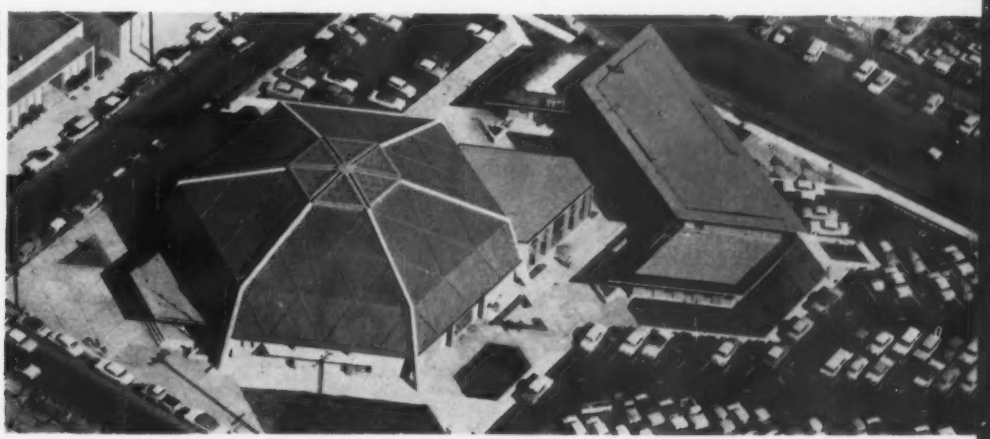
location	San Francisco, California
architect	Henry Hill
associated architect	John W. Kruse

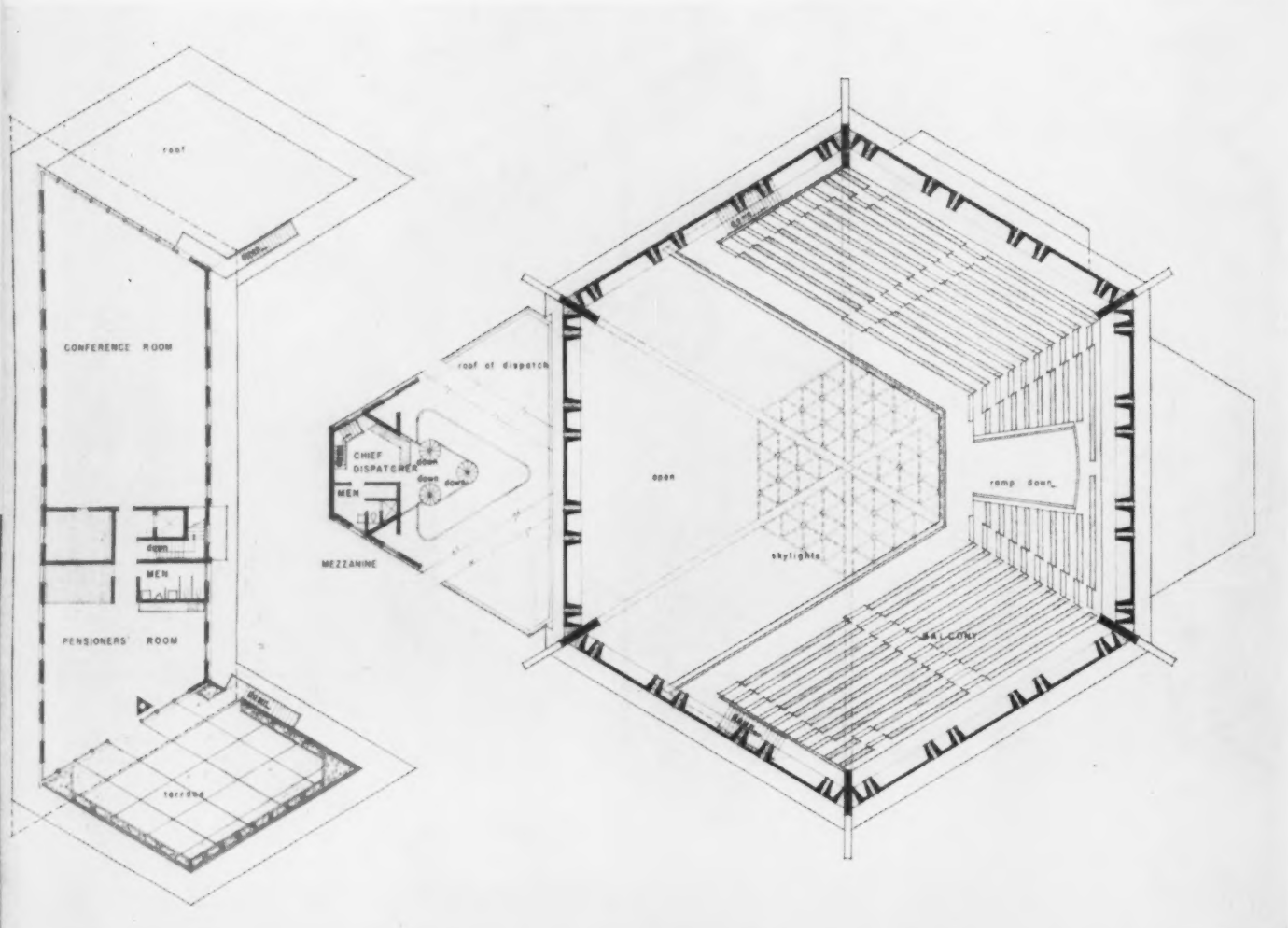
From this center—the San Francisco Bay Area Longshoremen's Memorial Association Building—about 5000 longshoremen are dispatched daily. To expedite this process, a dispatch hall with adequate entrance and exit facilities was required, and, in connection with it, an auditorium for large meetings and public functions capable of seating 2500. Administrative functions, including several conference rooms, and a pensioners' room with roof terrace, were combined in a separate wing. The shaping and architectural interrelationship of the three units was of particular importance since the site—a block of low, level ground near Fisherman's Wharf—was viewed from surrounding hills and bridges. For this reason the auditorium was given a highly distinct shape and a roof of copper. The hexagonal, 154-ft clear-span structure is supported by six precast-concrete bents, which rest on piles and are tied under the concrete slab. Ninety-six, triangular, concrete panels, precast at the site, interlock to form the dome. The six uppermost sections of webbed equilateral triangles are glazed to admit daylight. Side walls are also sections of precast concrete with exposed-aggregate finish. The space is radiantly heated, and acoustically treated by felt overlays of polyurethane on the recessed triangular faces of the panels. For maximum visibility the dispatch area is of steel and glass.

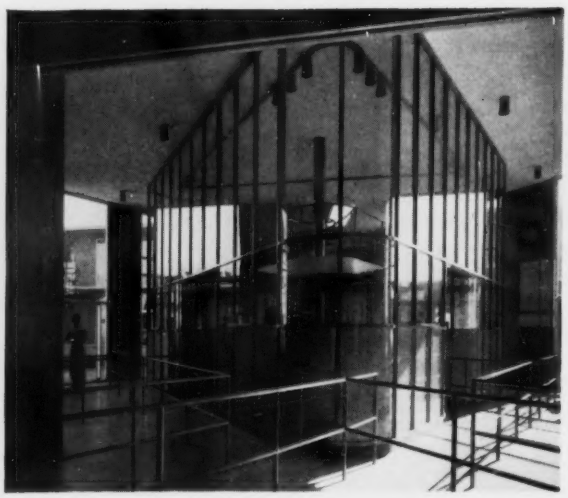
Royston, Hanamoto & Mayes were the Landscape Architects; Isadore Thompson, Structural Engineer; H. Gilman Smith, Mechanical Engineer; Smith & Garthorne, Electrical Engineers; Jacks & Irvine and Mills Construction Co., General Contractors.



Moulin Studios







Photos: Roger Sturtevant

Photos: Roger Sturtevant

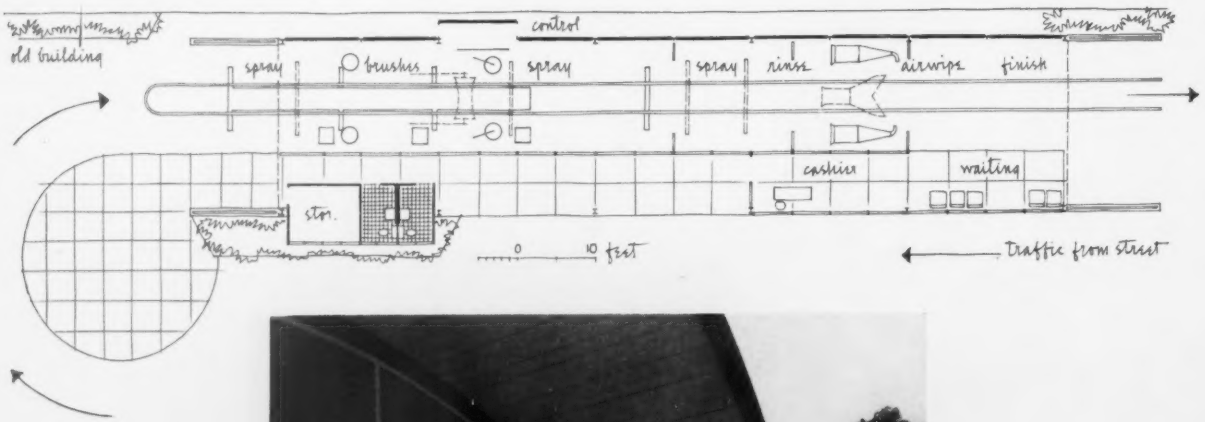
car wash

location | Burlingame, California
architect | Francis Joseph McCarthy

That our highways need not be bordered with vulgar or dull structures is demonstrated by this pavilion-like building. The vaulted roof provides heights where required for car-washing equipment. To make waiting for service pleasant, a glass wall reveals the washing operation; color treatment is lighthearted, with the steel frame painted red, moving equipment yellow, the rest white.

The building has a steel frame of 8″ columns and beams, 20-ft o.c., with 5″ channels spanning between beams. The structure was designed to be dismantled, and it has in fact now been moved to another location, and reassembled there. Walls are prestressed-concrete block, glass, and sheet metal in the separate toilet unit (*above*). Floor is concrete slab, foundation reinforced concrete, roof sheathing 2″ T&G Douglas fir.

A. V. Saph, Jr. was Structural Engineer; Mitch Hurst, Mechanical Engineer; Charles A. Von Bergen, Electrical Engineer; Douglas Baylis, Landscape Architect; Fletcher Construction Company, General Contractor.

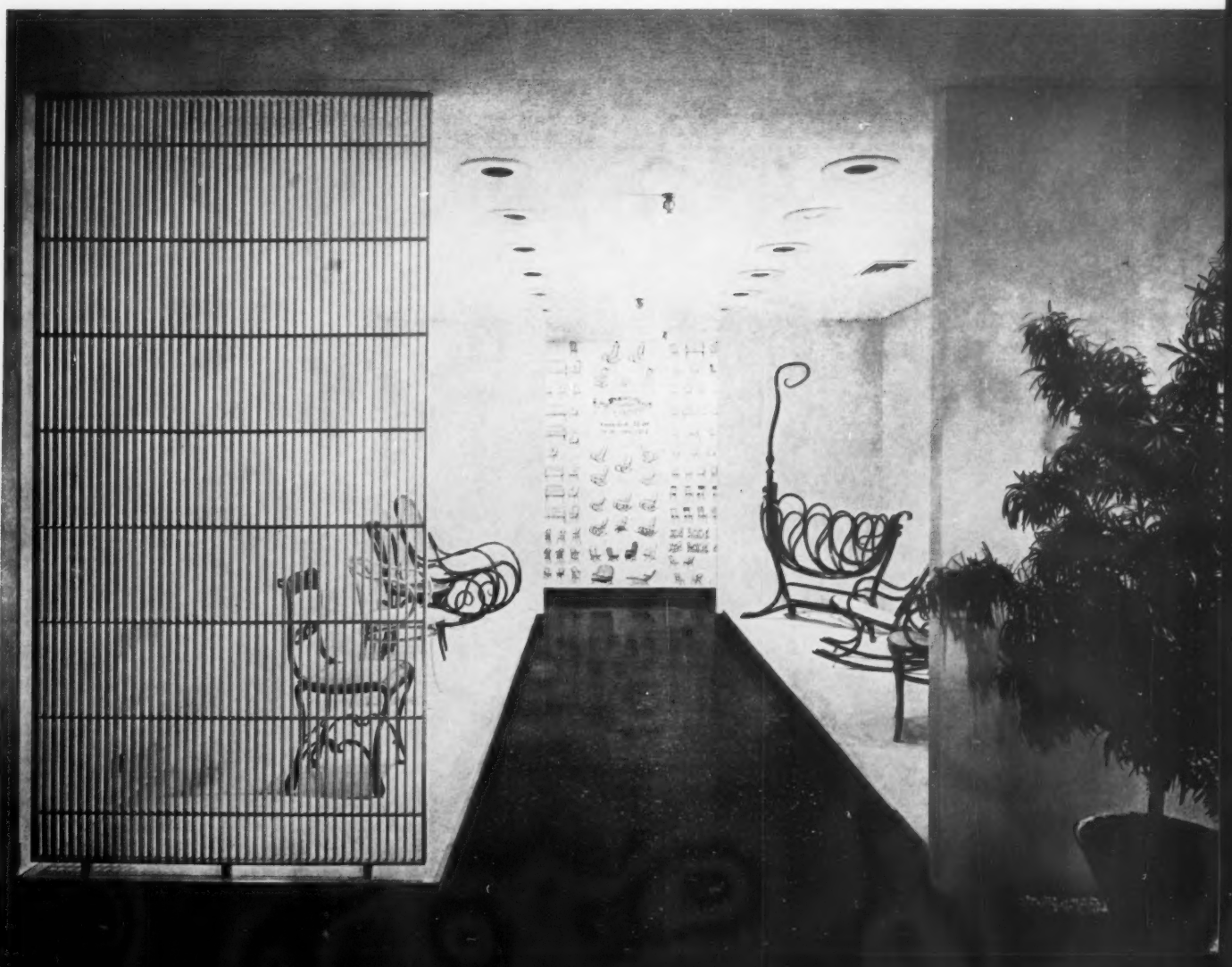


two showrooms

The two showrooms we present this month clearly demonstrate the importance of interior elements—space planning, lighting, particular partitions, and case goods—in most advantageously displaying a product. The designers of each showroom have devised special, practical means which are eminently appropriate for the showing of, in one case, furniture and, in the other, high-fashion shoes.

For the Thonet Industries, Inc. showroom, Architect Felix Augenfeld redesigned a 15,000-sq-ft space with the assistance of Roland Carter of Thonet. A small museum (*below*) displays the company's historical models, some of which are important landmarks in the development of chair design. It is divided from the reception area and showroom by an aluminum grill.

client	Thonet Industries, Inc.
location	New York, New York
architect	Felix Augenfeld

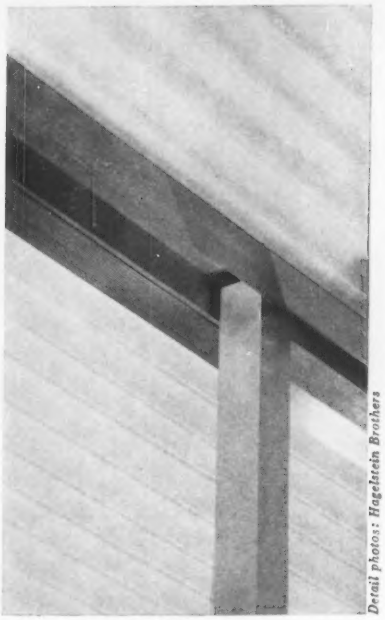


showrooms

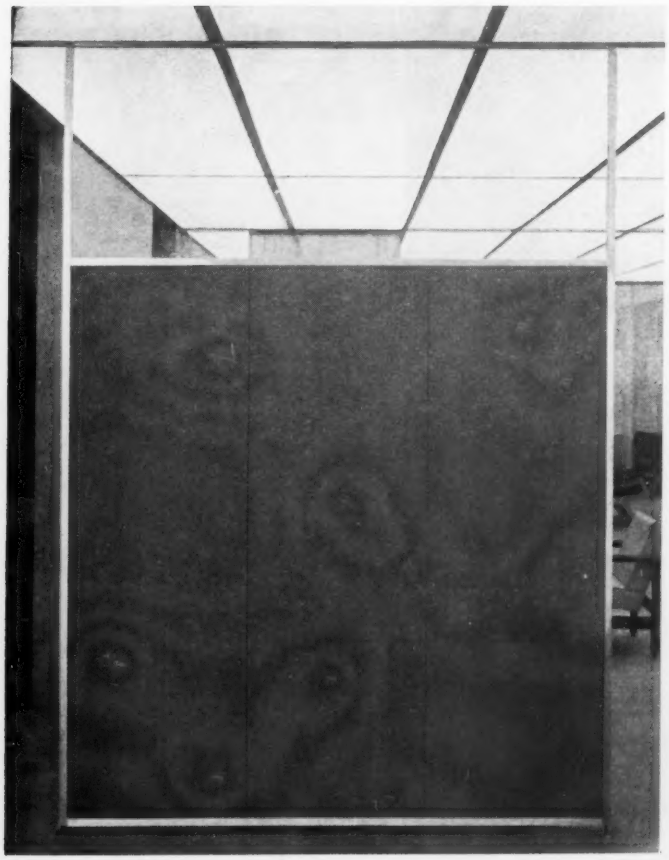
Photos (except as noted): Alexandre Georges

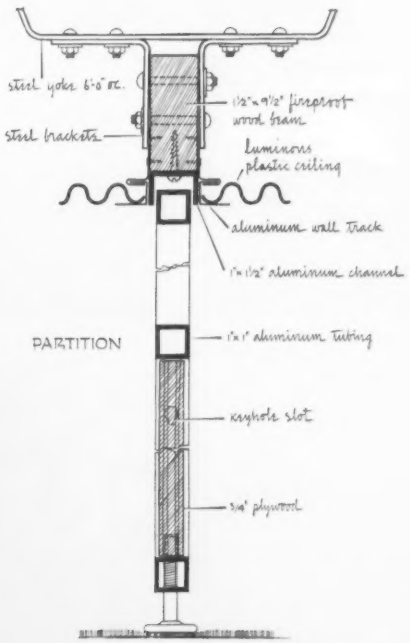
Facing the entrance in the reception area (*left*), the company name and a bentwood spiral, symbol of its earliest productions, are exhibited on a baffle wall. Beyond, the display area (*acrosspage bottom*) is divided into a 22'x110' central gallery, with a luminous ceiling emphasizing the most recent models, and peripheral secondary areas.

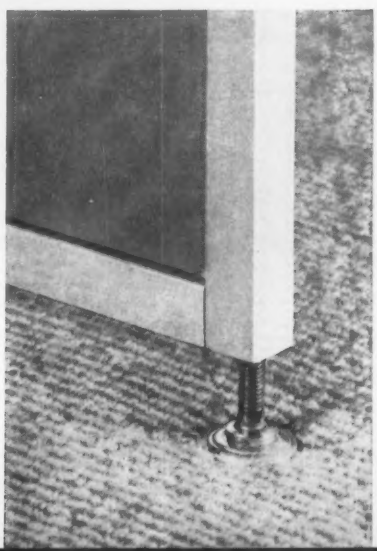
Movable partitions may be flexibly installed: adjustment screws in the base (*bottom*) and a top rail inserted into recessed aluminum channels flush with the luminous ceiling (*right*) prevent disturbance to carpet and ceiling.

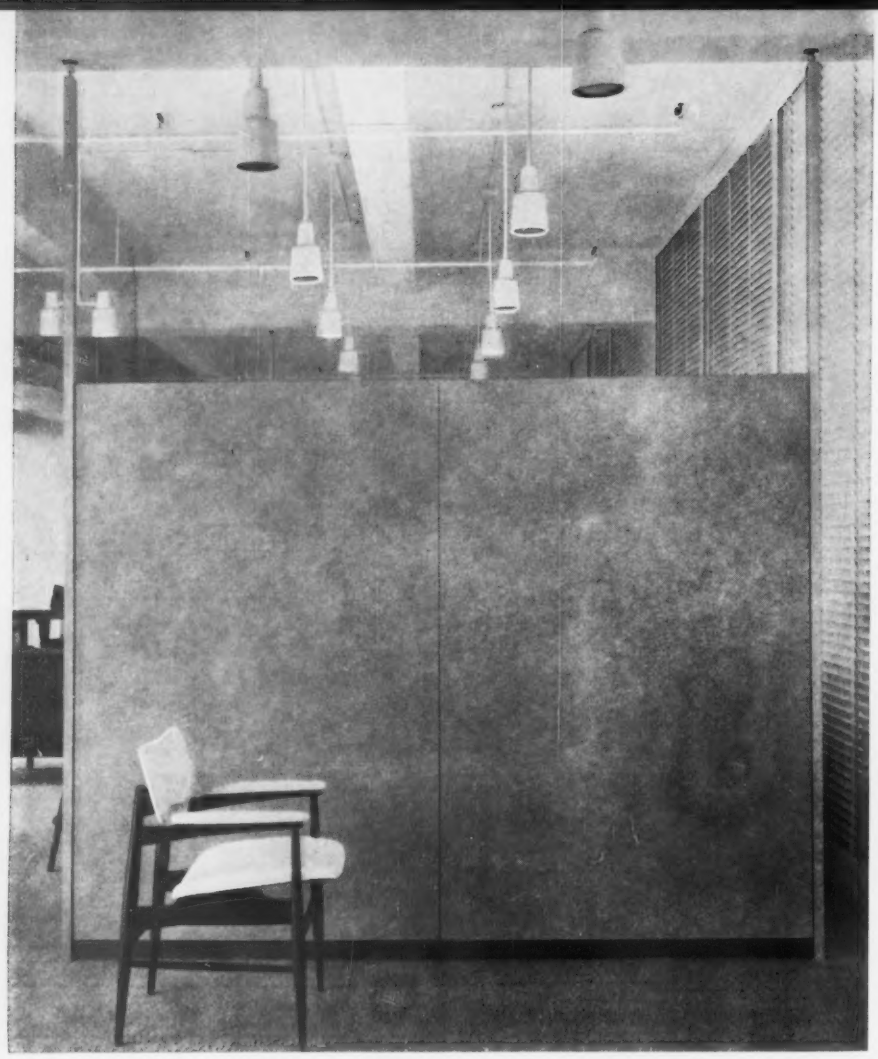


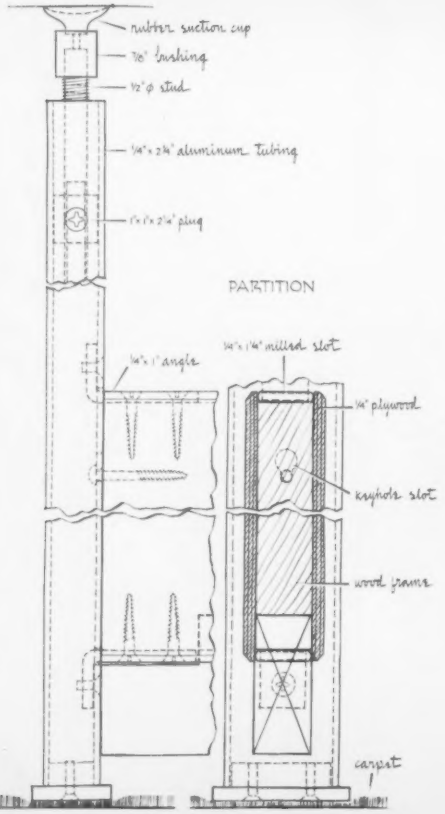
Detail photos: Hagelstein Brothers











Partitions in the peripheral showroom area, like the others, are designed for easy reinstallation without damage to the carpeted floor. All use rectangular aluminum tubing with painted-plywood panels, 6 ft high. Here, partitions are braced against the ceiling by means of adjustable screws and suction cups in the uprights.

data

cabinetwork, partitions

Museum Area: aluminum grill/architect-designed / custom-made / Treitel-Gratz Co., Inc., 142 E. 32 St., New York, N.Y. **Movable Partitions:** plywood painted gray, olive, yellow/frames, rectangular aluminum tubing/architect - designed / custom - made / Thonet Industries, Inc., 1 Park Ave., New York, N.Y. **Draperies:** white Fiberglas / Owens-Corning Fiberglas Corp., 717 Fifth Ave., New York, N.Y.

furniture

All: Thonet Industries, Inc.

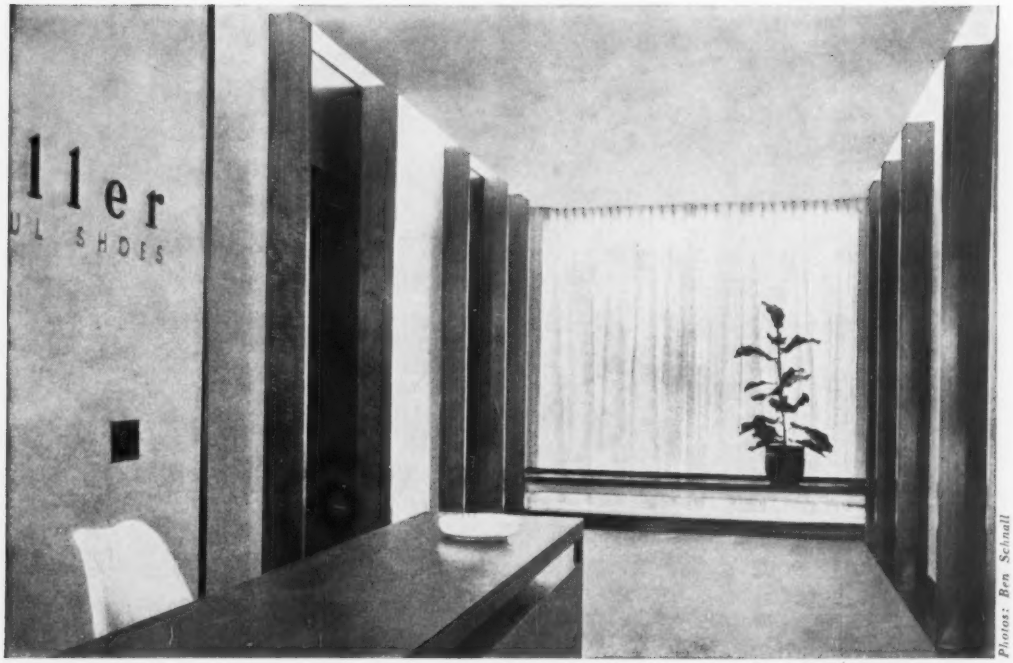
lighting

Fixtures: ceiling-recessed in reception, museum area/suspended downlights in secondary showroom area/Lightcraft Mfg. Corp., 100 Dayton Ave., Passaic, N.J. **Luminous Ceiling:** Luminous Ceilings, Inc., 2500 W. North Ave., Chicago, Ill.

walls, ceiling, flooring

Walls: white, charcoal, putty vinyl in reception area, white vinyl in museum /Prism Square/Gilford Leather Co., Inc., 515 Madison Ave., New York, N.Y.; plaster painted white in showroom. **Ceiling:** plaster painted white; acoustical tile/Armstrong Cork Co., Lancaster, Pa. **Flooring:** white, black vinyl tile in reception, museum/Robbins Floor Products, Inc., Tuscumbia, Ala.; yellow vinyl on raised platforms in museum/Boltaflex/The General Tire & Rubber Co., Akron, Ohio; beige, brown stripe carpet/wool, nylon/Vogue Carpet Corp., 515 Madison Ave., New York, N.Y.

showrooms



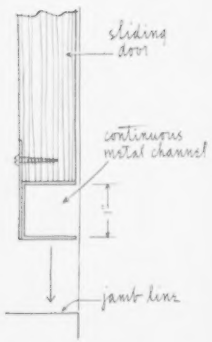
Photos: Ben Schnall

client	I. Miller & Sons Co.
location	New York, New York
interior designer	Designs For Business, Inc.
director of design	G. Luss, Vice-President
assistant director of design	Vidvar Hermanovski
project decorator	Marjorie Allen

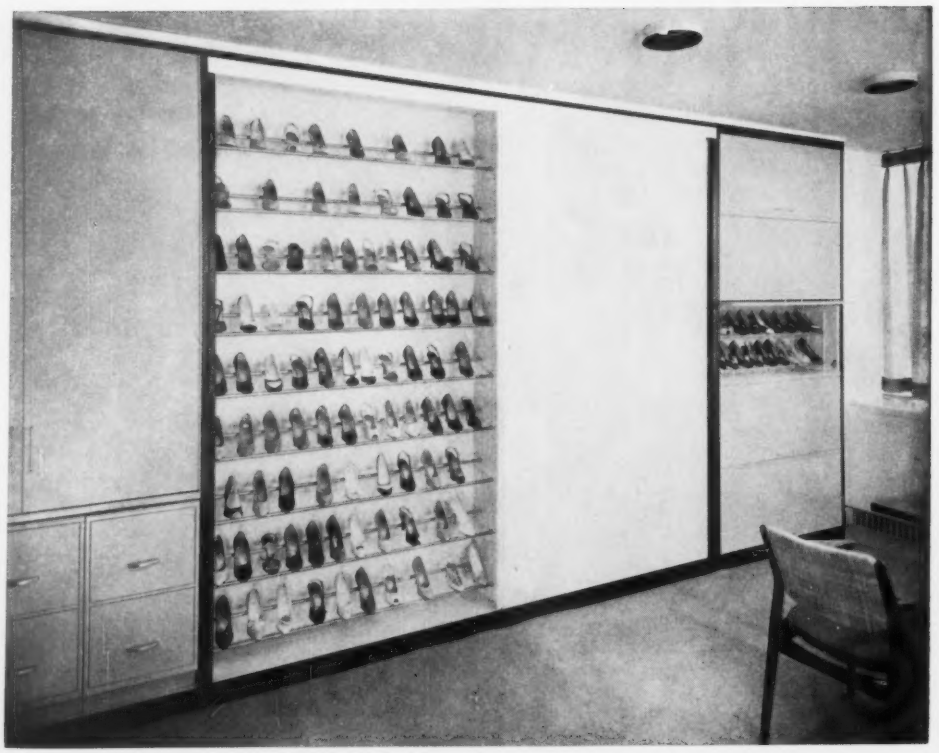
The reception area/elevator lobby with vertical walnut baffles *(above)* and the corridor *(right)* are narrow spaces adroitly handled. Avoiding a tunnel-like perspective through the center corridor, projecting storage closets alternate with recessed niches which hold plants.

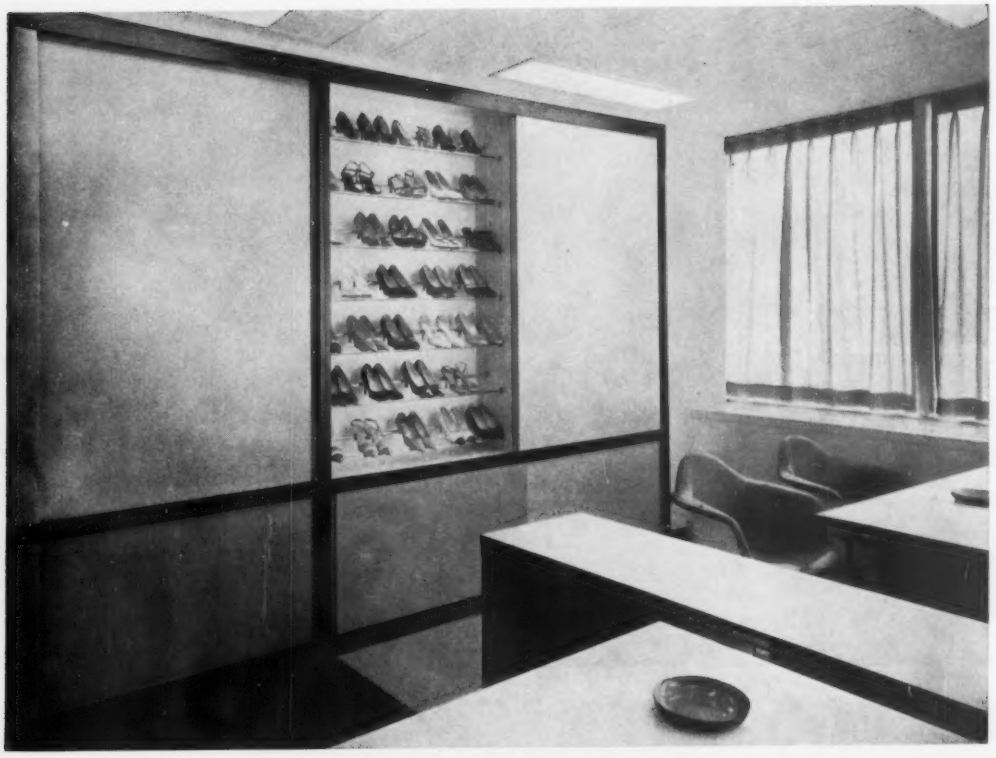
Offices and showrooms *(following pages)* display shoes in specially-designed storage cases. Three showrooms, separated by movable walnut panels, open to a single space which holds 200 persons; built-in walnut display cases were designed for showing a small selection of the easily accessible, entire collection.

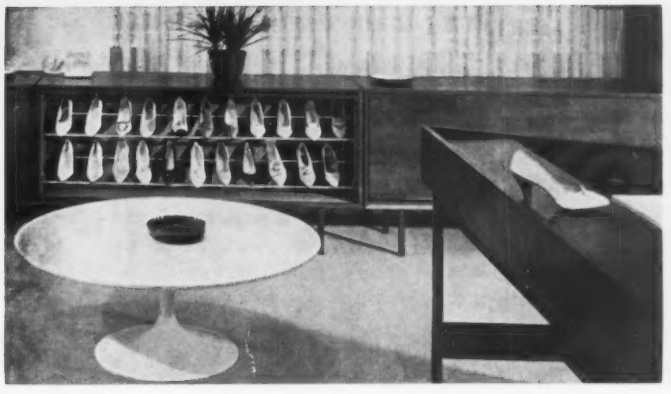
showrooms

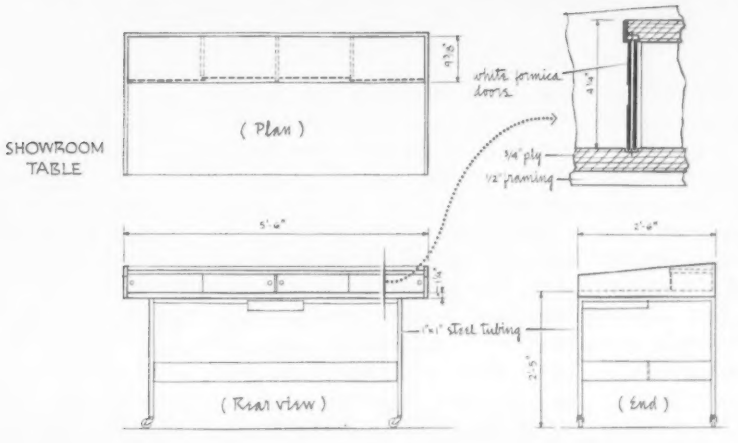


DOOR HANDLE









data

cabinetwork, partitions

Walnut Display Cases: oil-finish/satin-aluminum hardware/Garcy/Garden City Plating & Mfg. Co., 1750 N. Ashland Ave., Chicago, Ill./architect-designed /custom-made/Ezra Blank Associates, Inc., 500 Stagg St., Brooklyn, N.Y. **Showroom Folding Partition:** oil-finish walnut/Midhattan Woodworking Corp., 42 W. 13 St., New York, N.Y. **Steel Storage Cabinets:** blue, white lacquer finish/black frame/architect-designed/ custom-made/Aetna Steel Products Corp., 730 Fifth Ave., New York, N.Y.

draperies

Reception Area Draperies: white casement/Jack Lenor Larsen, Inc., 677 Fifth Ave., New York, N.Y. **Draperies:** white linen casement/Isabel Scott Fabrics Corp., 515 Madison Ave., New York, N.Y.; gray Fiberglas/ Owens-Corning Fiberglas Corp., 717 Fifth Ave., New York, N.Y.

furniture, fabrics

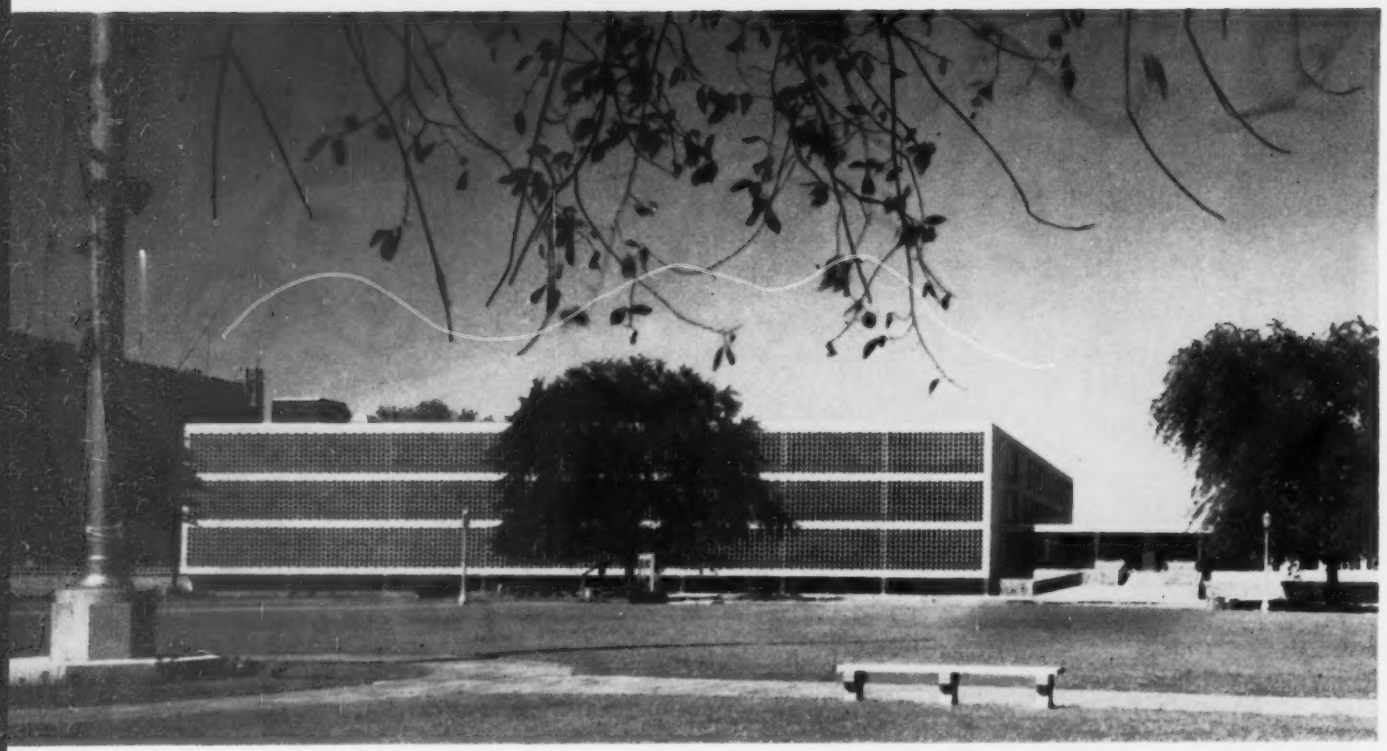
Reception Area: oil-finish walnut desk, bench/architect-designed/custom-made /Ezra Blank Associates, Inc.; pedestal chair/Knoll Associates, Inc., 575 Madison Ave., New York, N.Y. **Showroom:** pedestal table/Knoll Associates, Inc.; cane and teak chairs/George Tanier, Inc., 521 Madison Ave., New York, N.Y.

lighting

Reception: opal glass fixtures/Altamira, 125 E. 55 St., New York, N.Y. **Corridor:** fluorescents/milk glass, aluminum frames/custom-made / Lightolier, Inc., 346 Claremont Ave., Jersey City, N.J. **Ceiling-Installed Fixtures:** white baked enamel, black mat metal/custom-made /Lightolier, Inc.

walls, ceiling, flooring

Walls: pandamus cloth in reception area/Knoll Associates, Inc.; others plaster painted white. **Ceiling:** acoustical tile in office/Owens-Corning Fiberglas Corp.; plaster/United States Gypsum Co., 300 W. Adams St., Chicago, Ill. **Flooring:** beige carpet/Mohawk Carpet Mills, Inc., Amsterdam, N.Y.; black rubber tile in reception area, sheet rubber in corridor/Goodyear Tire & Rubber Co., Inc., 1144 E. Market St., Akron, Ohio; asphalt tile in office/black confetti/B. F. Goodrich Co., 36 Nichols Ave., Watertown, Mass.



Gothic Campus Gets a Contemporary Building

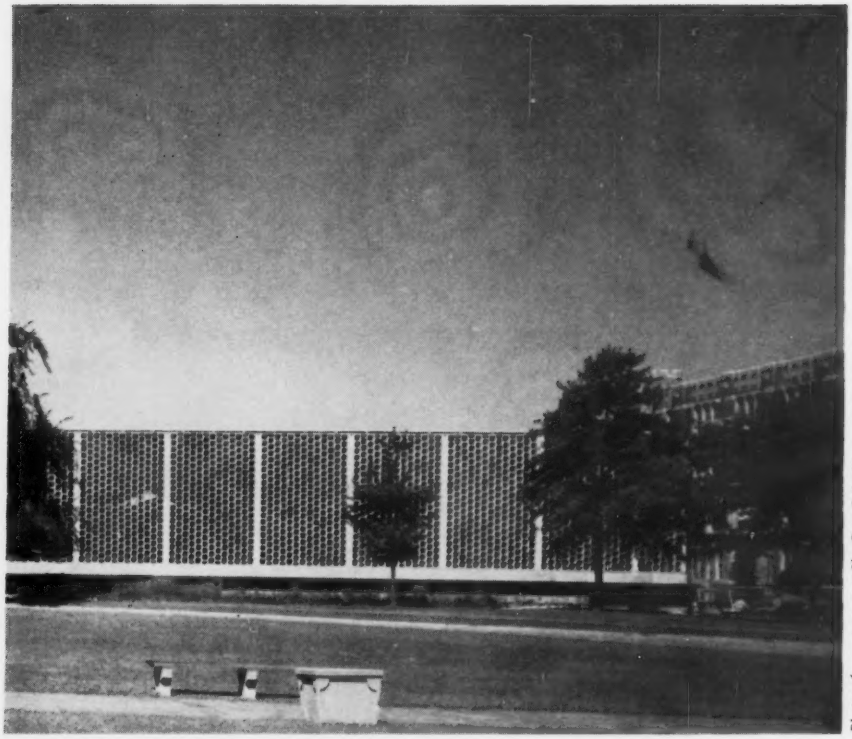
In the Gothic setting of Hunter College's campus in the Bronx, Marcel Breuer has designed an appropriate and impressive library-classroom complex. Of particular structural interest is the library's roof of six, concrete, inverted umbrellas, a form that dictated several unique solutions in design and construction.

A striking contemporary building complex, successfully harmonizing with older adjacent buildings, has been added to the Bronx campus of Hunter College in New York.

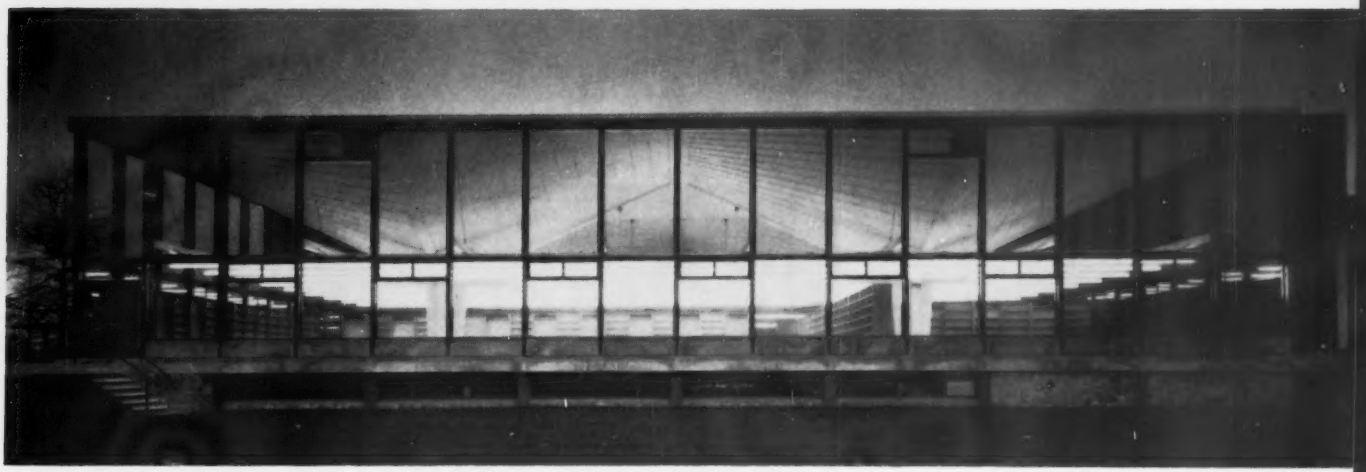
The newly-built units, designed by Marcel Breuer, consist of a one-story library building linked to a three-story classroom-administration wing. Facilities consolidate offices previously scattered throughout the campus, provide 30 new classrooms, and replace formerly inadequate library space. Although it is a successful solution in many respects, the unusual design of the library's roof —made up of thin-shell, concrete, inverted umbrellas—make it particularly noteworthy.

Appropriateness in its (1930's) Gothic setting is achieved by various devices, among them the bold but not overpowering scale of the entire complex, and the small scale of its façade patterning. Materials, which were chosen to echo colors of neighboring buildings, are burnt-orange clay flue tile, natural rubble stone, and limestone. In addition, the severe façade of the classroom building (where it is unadorned with sun screening) recalls the narrow vertical openings of the existing building opposite. A rugged masonry quality puts the new buildings further at home.

Sun screening which appears on two façades of both the library and the classroom wing, is a prominent feature. Gently-rounded at the corners, the sections of square flue tile make a handsome repetitive design that is neither



Photos (except as noted): Ben Schnall

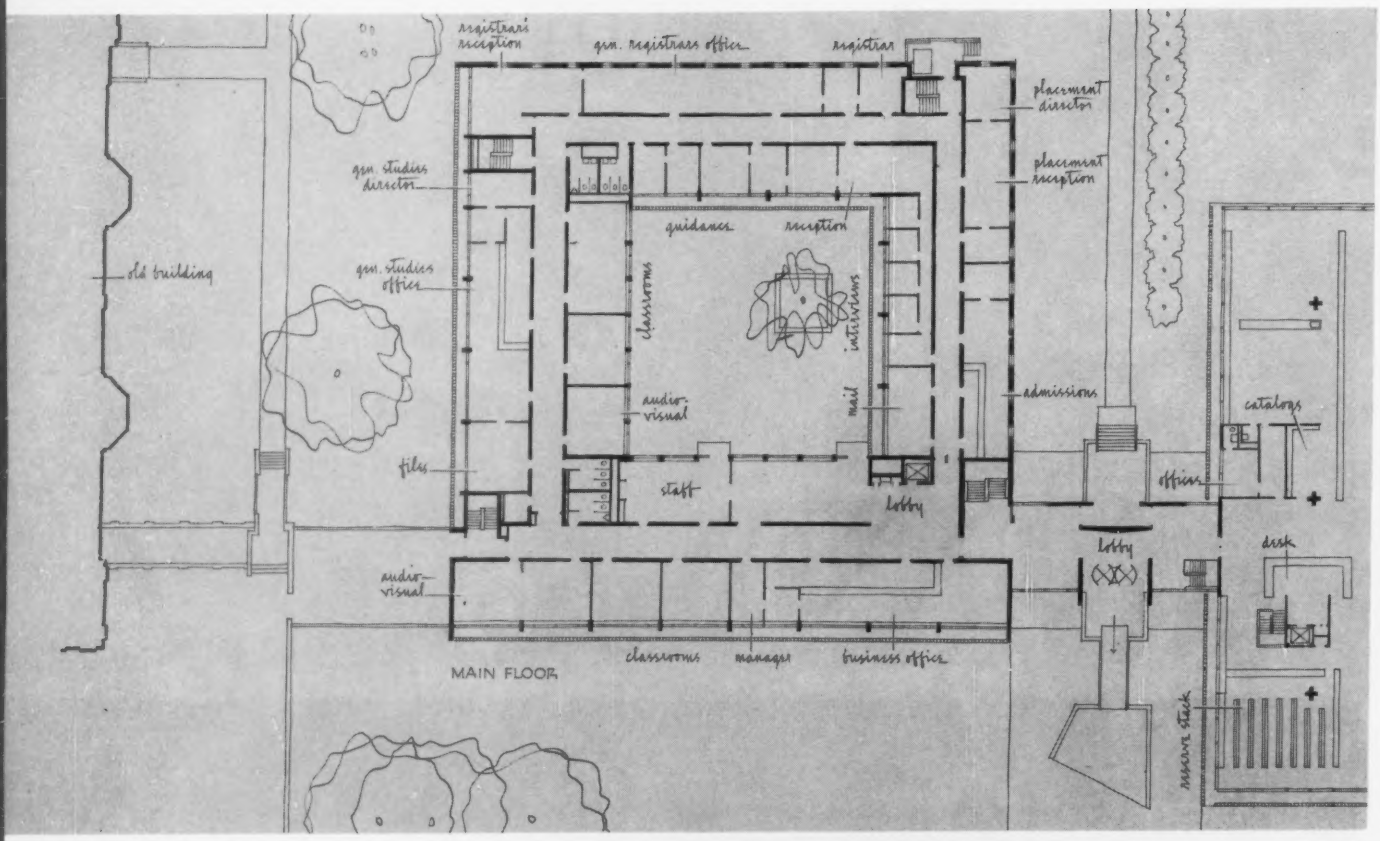


banal nor brutal. An exciting richness of light and shadow, in the narrow corridors between screen and building, is seen from the entry link. (Sun screening is set out 4 feet from the glass skin; the tile is separated from the roof structure of the library to avoid assymetrical bays, while in the classroom building, the roof extends to it.)

On unscreened façades of the library, large glass areas are open to views of Bedford Park reservoir, distant Palisades, and campus. By recessing the lower (and operable) portions of the glass, a plasticity not found in the more typical single-plane curtain wall is achieved. A major landscaping project, not yet completed, is a line of tall trees that will protect the otherwise unshielded northwest window wall of the library.

Careful manipulation of planes and masses is also a factor in the total exterior effect, with each unit—the library and the classroom section—conceived as a box poised on a recessed pedestal. (A portion of the ramp of the entry link is also free of the ground.) Particularly effective basement classrooms result from the high windows.

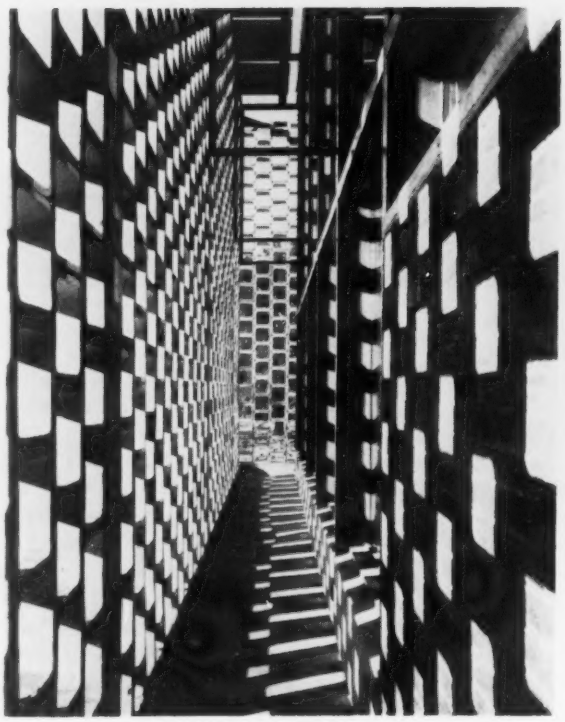
Others connected with this project were: Robert F. Gatje, Associate in the Breuer office; Eduardo Catalano, Consultant; Attilio D. Gallo and Farkas & Barron, Structural Engineers; Arthur A. Schiller, Chief Architect, Board of Higher Education, City of New York, Construction Supervision; and Leon D. DeMatteis & Sons, Inc., General Contractor.

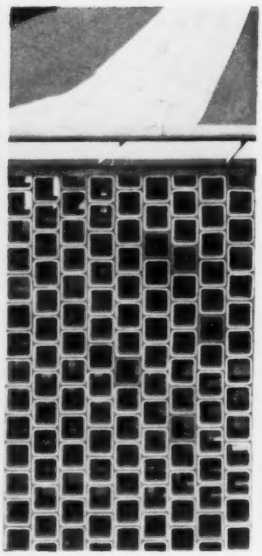


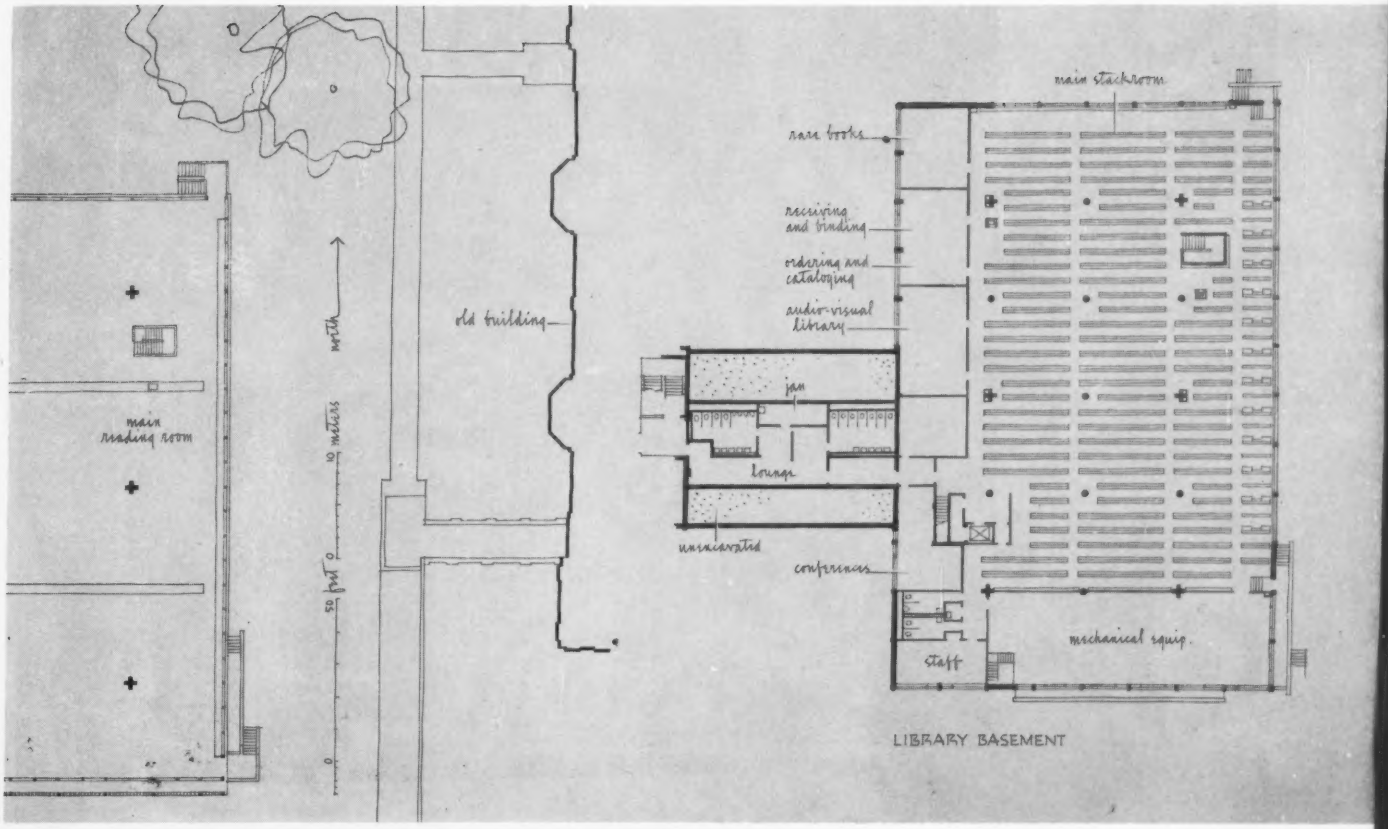
With the exception of the library roof (and its floor, which is a two-way, reinforced-concrete, pan construction, designed to avoid dropped beams in the tight network of ducts underneath), the rest of the structural system is conventional. The $3.3 millions basic bid was up only 9 percent from the estimate of three years ago. Costs in the complete project, considered reasonably economical, average $20/sq ft.

The impressive concrete roof of the library is made up of six, 60-ft-square, inverted umbrellas, whose quadrants are hyperbolic paraboloids. These arch upward from each umbrella's central column; with outer edges of the shells at 23′ above floor level; and centers, over the columns, at 10′. In spanning the 120′ x 180′ area with only six supports, the roof provides an interior space both exciting and unrestricting.

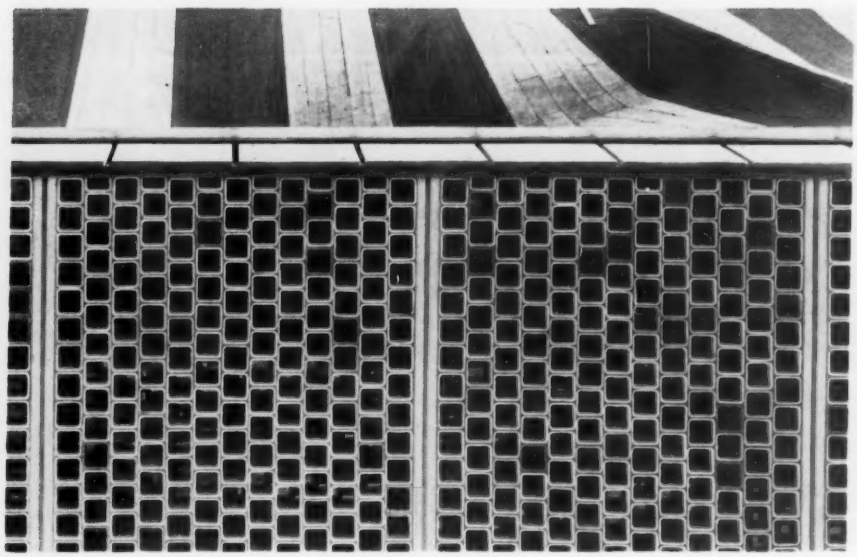
A fluorescent-lighting grid—of box sections set 7′-6″ o.c. in one direction and 15′ o.c. in the other—introduce a strong horizontal plane just below the







LIBRARY BASEMENT

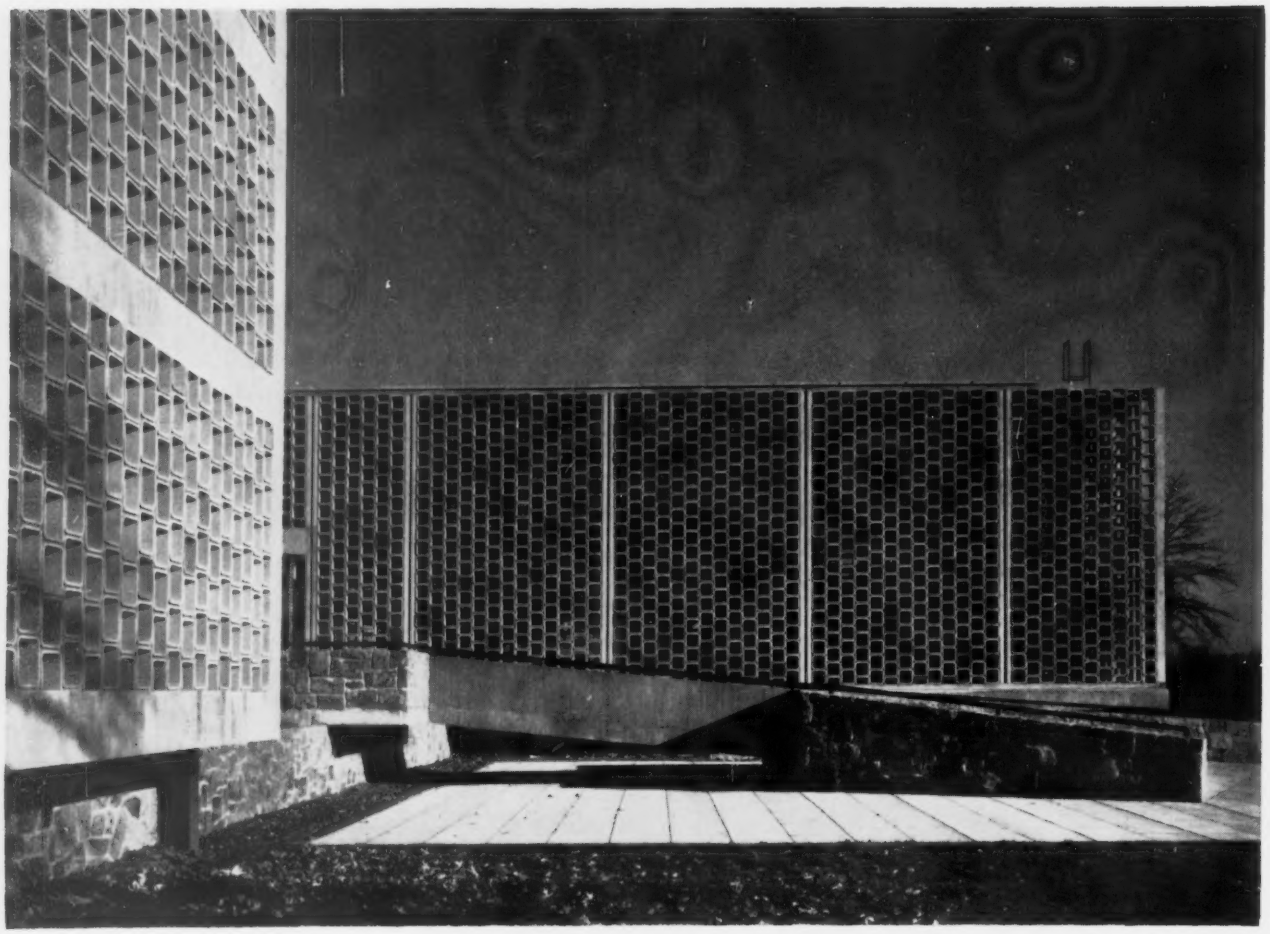


Shell roof of library has alternating shades of roofing for added visual interest (above). *Light and shadow created by sun screening is most fantastic in "corridor" between screen and library wall* (left).

10′ level. The intention here was to provide an open grid, floating free of the shells, through which the shell structure would be apparent; but it can be questioned whether the heavy aluminum grid doesn't, in fact, set up an opposing element—powerful enough to seem structural in itself—which confuses and denies the impact of the shells.

The total form of the shells, however, is more happily comprehended from points other than the interior: from outside, looking in at their warped undersides; and from above, looking down onto their steep slopes.

The lighting does, however, provide an over-all high level of illumination for utmost freedom in placing furniture. The large open space is divided into several reading or stack areas by long free-standing book cabinets, which reach almost to the ceiling grid. These were specially designed to incorporate hot-air registers. Beautifully-grained ash, used in these cabinets, is repeated frequently; all doors are of the same wood, which



is so lightly lacquered as to appear untreated.

A contrast of materials is introduced at the bush-hammered concrete railing which surrounds the two interior stairwells of the library, and acts—at one of them—as an enclosure for vertical communication to the stacks below and as a backdrop for the main circulation desk. The only sculptural element in an otherwise geometric scheme, this form appropriately emphasizes the library's control point.

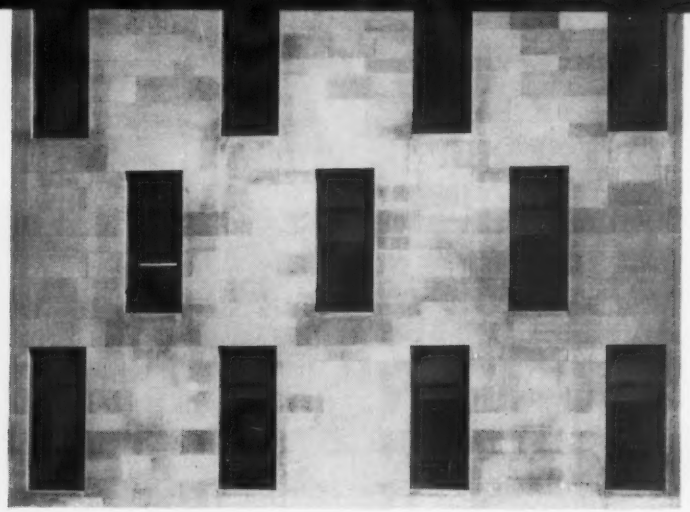
The mat-black brick panels and dark-gray painted mullions are further subtleties of the simple interior. A single bright color, the sky blue that has become a Breuer "trademark," appears in a panel over the entrance. The six columns, and underside of the shells, are painted white over their rough concrete. As yet unfurnished, the library will be equipped with Danish-designed chairs and simple library tables. The space already has excellent sound absorption from the form and texture of the concrete overhead.

Separation of the classroom-administration wing from the library avoids many conflicts—both functional and structural—between small office areas and larger library space. As a technique to give each room, however small, natural light and ventilation, the courtyard plan of the classroom wing also permitted a compact three-story building.

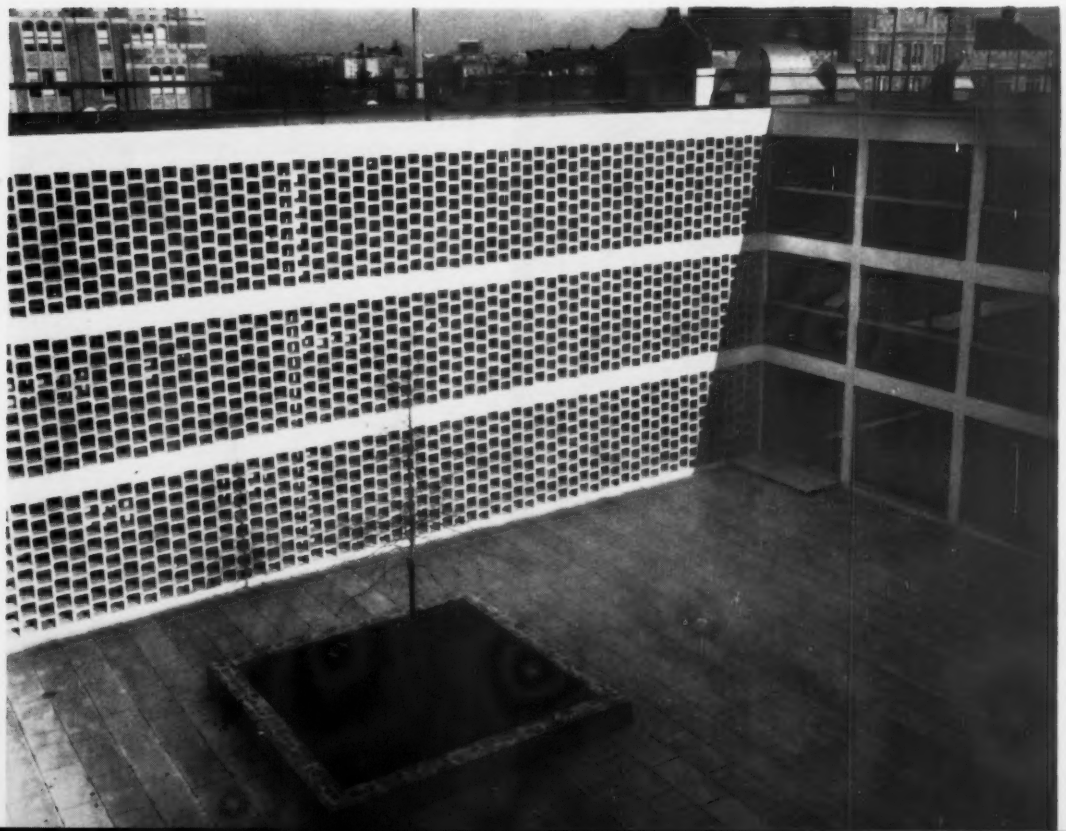
Exterior and corridor walls are bearing masonry, which, despite early misgivings about mixing the masonry and concrete trades, proved a most economical solution. Detailing, throughout, is elegantly simple. Colors and materials, again, are limited: ash, dark trim, and the white of the block walls. A palette of five colors was established, giving choice to each department on the color of one wall. Vermilion and blue predominate. Furnishings here are black and gray, for interchangeability.

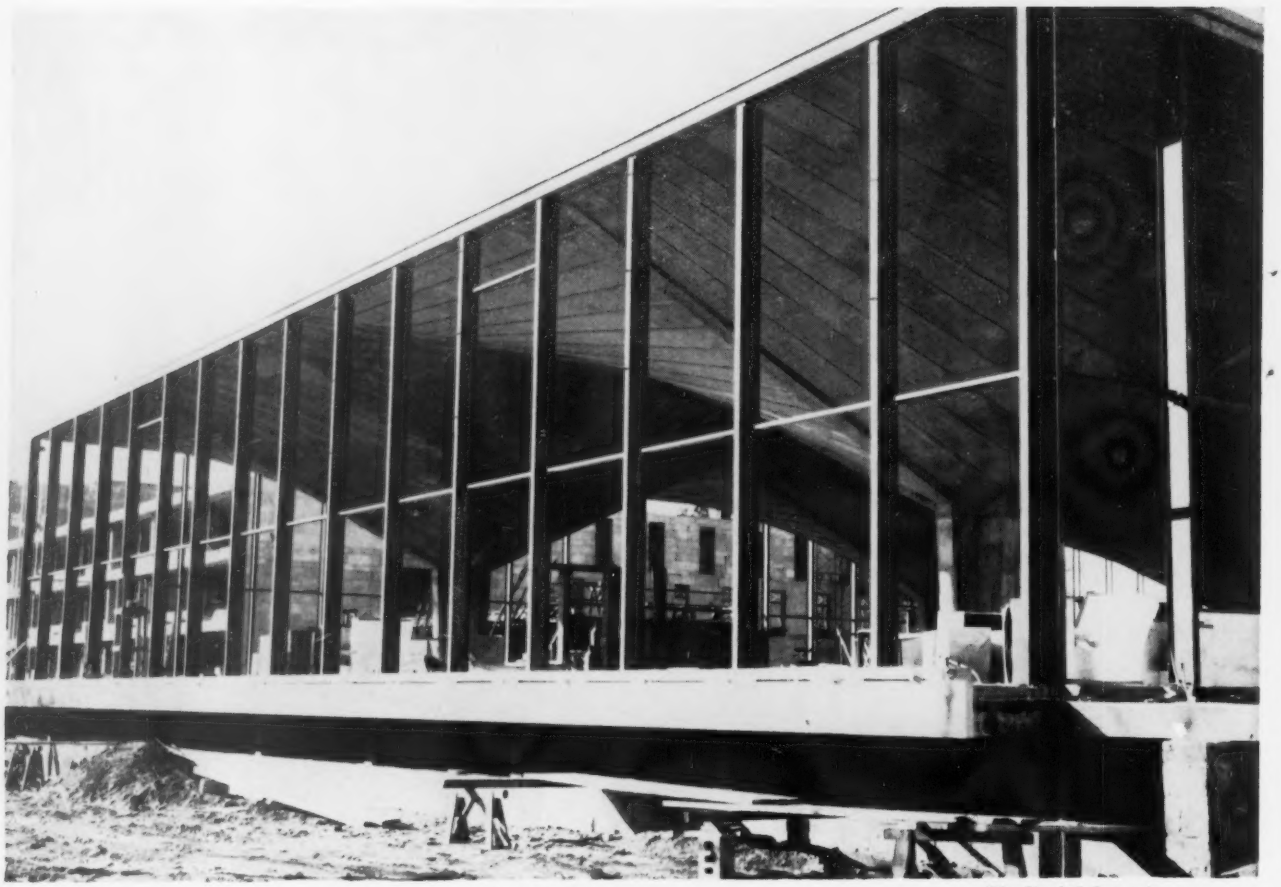
The three-story courtyard is an austere paved square, walled on two of its sides by clay flue tile. Use of the space will be mainly for faculty receptions and similar activities scheduled after class hours.

At its dedication this fall, the classroom building was named Shuster Hall, honoring George N. Shuster, president of the college. The library is as yet unnamed.

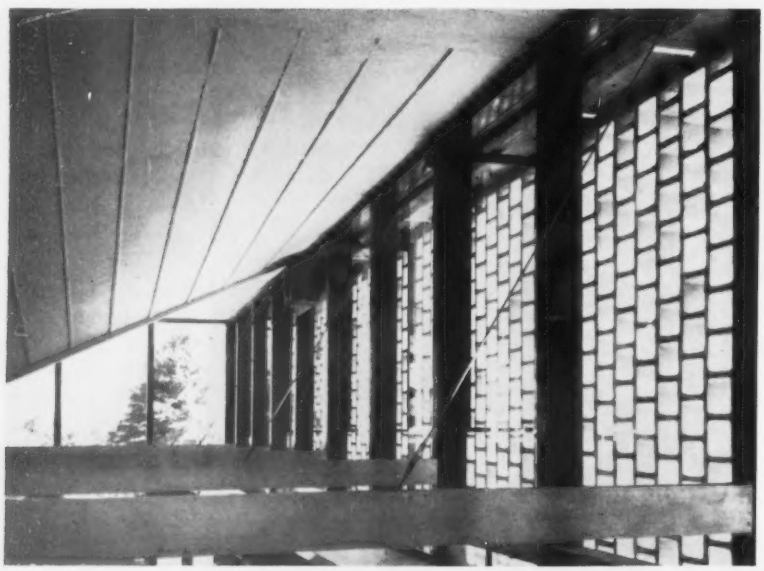


Entry ramp is partially free of the ground, just as larger masses also overhang a supporting base (across-page). *Details of the classroom wing show severe unscreened façade that faces library* (above), *typical classroom* (right), *and central courtyard* (bottom).

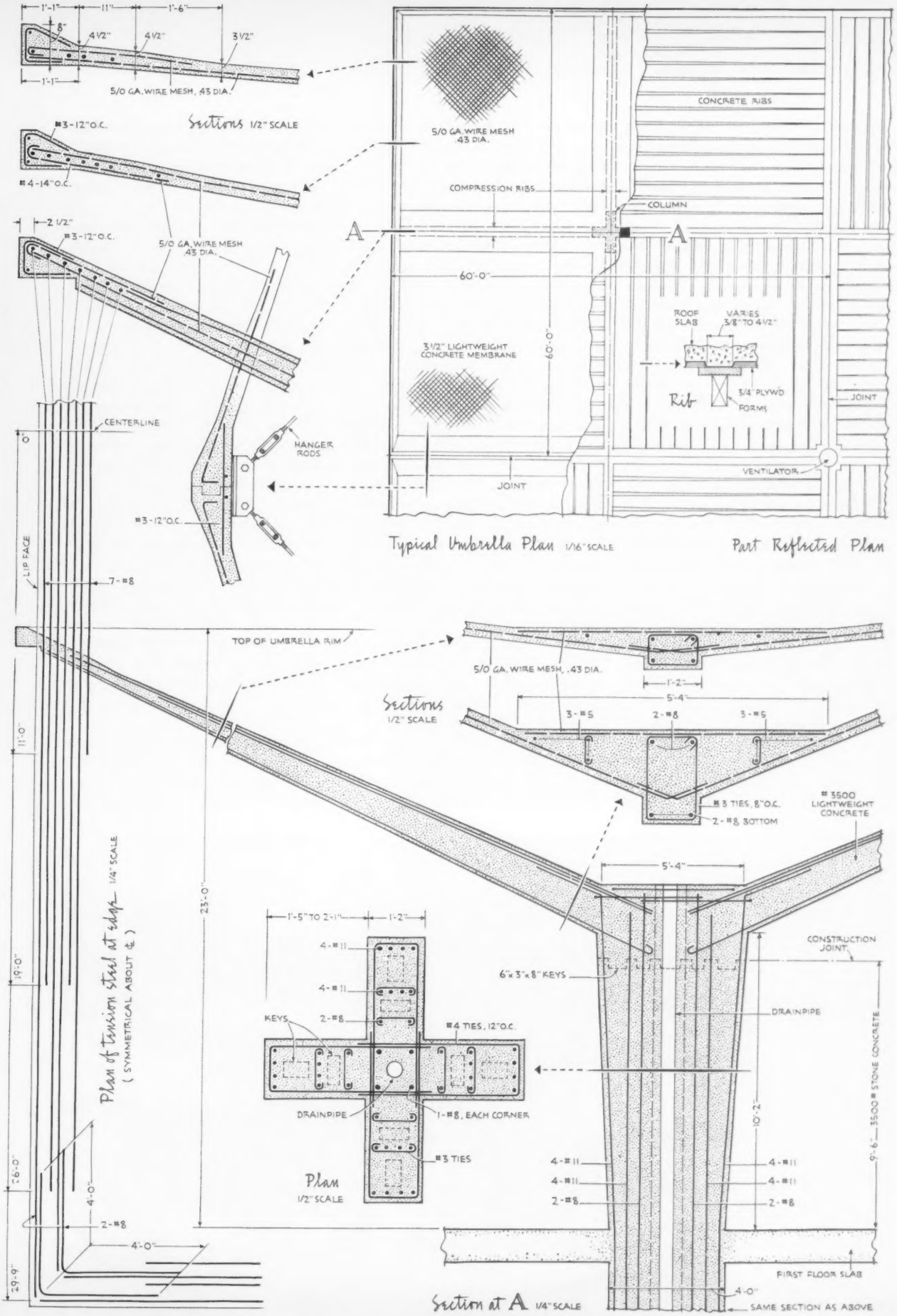




Sika Chemical Corporation



Inverted umbrellas spring up dramatically from six supporting piers as seen during construction (above), *but heavy lighting grid introduces a strong horizontal plane in the finished library* (left). *For discussion of technical details presented by this roof form, see following pages.*


1'-1"
11"
1'-6"
8"
4 1/2"
4 1/2"
3 1/2"
1'-1"
5/0 GA. WIRE MESH, .43 DIA.
Sections 1/2" SCALE
#3-12"O.C.
#4-14"O.C.
2 1/2"
#3-12"O.C.
5/0 GA. WIRE MESH .43 DIA.
CENTERLINE
HANGER RODS
#3-12"O.C.
LIP FACE
7-#8
5/0 GA. WIRE MESH .43 DIA.
CONCRETE RIBS
COMPRESSION RIBS
COLUMN
A
A
60'-0"
60'-0"
3 1/2" LIGHTWEIGHT CONCRETE MEMBRANE
ROOF SLAB
VARIES 3/8" TO 4 1/2"
Rib
3/4" PLYWD FORMS
JOINT
VENTILATOR
JOINT
Typical Umbrella Plan 1/16" SCALE
Part Reflected Plan
TOP OF UMBRELLA RIM
11'-0"
19'-0"
26'-0"
29'-9"
23'-0"
4'-0"
2-#8
4'-0"
Plan of tension steel at edge 1/4" SCALE
(SYMMETRICAL ABOUT ℄)
5/0 GA. WIRE MESH, .43 DIA.
1'-2"
5'-4"
3-#5
2-#8
3-#5
Sections 1/2" SCALE
#3 TIES, 8"O.C.
2-#8, BOTTOM
#3500 LIGHTWEIGHT CONCRETE
5'-4"
1'-5" TO 2'-1"
1'-2"
4-#11
4-#11
KEYS
2-#8
#4 TIES, 12"O.C.
DRAINPIPE
1-#8, EACH CORNER
#3 TIES
Plan 1/2" SCALE
6"x3"x8" KEYS
CONSTRUCTION JOINT
DRAINPIPE
10'-2"
9'-6" — 3500# STONE CONCRETE
4-#11
4-#11
2-#8
4-#11
4-#11
2-#8
FIRST FLOOR SLAB
4'-0"
SAME SECTION AS ABOVE
Section at A 1/4" SCALE

Technical problems posed by the hyperbolic-paraboloid design led to several interesting details and methods. The underside of the shells, for instance, is marked by long, wedge-shaped grooves, which derive from the forming technique. Since each 30′x30′ paraboloid is straight along its outer edges but trapezoidal along its warped surface, wedge-shaped formwork would normally have been required to cover the surface completely. Instead, spaces were left between the 2′x8′ plywood formboards in the 8′ direction. The spaces were filled with concrete, forming ridges that decrease in width from 2½″ at the column to ¼″ at the edge of each umbrella. The grooves run in opposite directions on adjacent quadrants.

A further advantage in using 2′x8′ panels was the ease in placing them. With no more than 3″ difference in elevation across any 2′ width, the ⅝″-thick panels assumed the warp simply by being nailed.

The upper side of the roof shell, visible from several taller buildings, is finished with mineral-surface roofing, which for visual interest is laid in alternating strips of light and dark gray. To meet the possibility of ice forming and remaining in the shells, causing unusual stresses, the 8″ drain pipes extend 4′ above the lowest point of the shells and are perforated to permit drainage as the ice melts.

Reinforcing of the shell consists of prefabricated, welded mats made of cold-drawn steel wire, marking one of the first major uses of wire in this form. Splicing, tying and bending on the site were thus eliminated. Because of their weight, the 10′x30′ mats draped naturally along the curved contours of the roof.

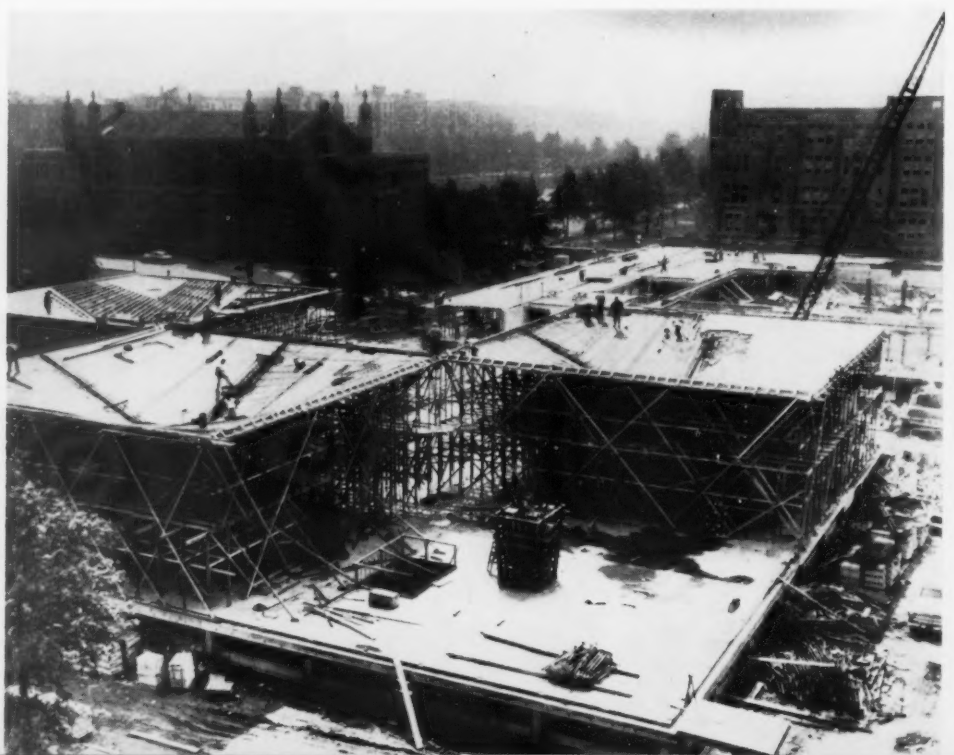
To conform to the trapezoidal shape of the shells, edge reinforcing mats were trimmed to the required shape and removed pieces used for opposite corners. The mats are parallel, giving an overlap of approximately 10″. Alternate mats were turned over so as to key together without increasing the depth of reinforcing.

The four hyperbolic-paraboloid quadrants are joined by compression ribs that are, in effect, spokes of each umbrella. The ribs are 14″ wide, with depth varying from 8″ at the top of the shell to 14″ over the column. Loads are transmitted directly from the ribs into the cross-shaped columns below, each stem of the column acting as a continuation of the rib above. Thickness of the stems is 14″; width in each direction is 4′ at the floor, tapering to 5′4″ at the shell.

The roof is designed for a dead load of 50 psf and a live load of 40 psf. Calculations indicate that a theoretical live load of 230 psf would cause failure, giving a safety factor of approximately 6. Consideration was also given to unusual loading conditions, such as each shell (or only several) filling with ice or water, and unbalanced wind or snow loads.

To prevent deflection from plastic flow of the cantilevered edges of the shell, with its disturbing appearance and possible cracking of windows, several techniques were employed. The two interior corners (at each of which, four umbrellas meet) are cambered 1½″. These will deflect to a level position in three years, and possibly a further 1½″ in future years. But any deflection on the inside will be unnoticed since there is no point of reference with which it can be measured. At the exterior the mullions will withstand any corner deflection. These lightweight-steel sections, which ring the perimeter at 7′-6″ o.c., serve to resist edge-rippling under temperature changes, and do not carry any loads now. As an extra precaution against window breakage from deflection, glass is held only at the bottom and sides of each mullion, with no contact at the top. In addition, the outer edge of the roof forms a heavier triangular-shaped section, and any deflection here is effectively concealed by the fascia. ("Breathing" of the shells with changing temperatures is absorbed by the shell curvature itself, without movement of the edge-beam.) The 3″ perlite insulation will deflect with the shell, and the roofing felt is also flexible.

New York's building code classifies the roof structure as a slab, thereby requiring a 3½″ thickness, although 2½″ was at one time proposed. To offset the extra



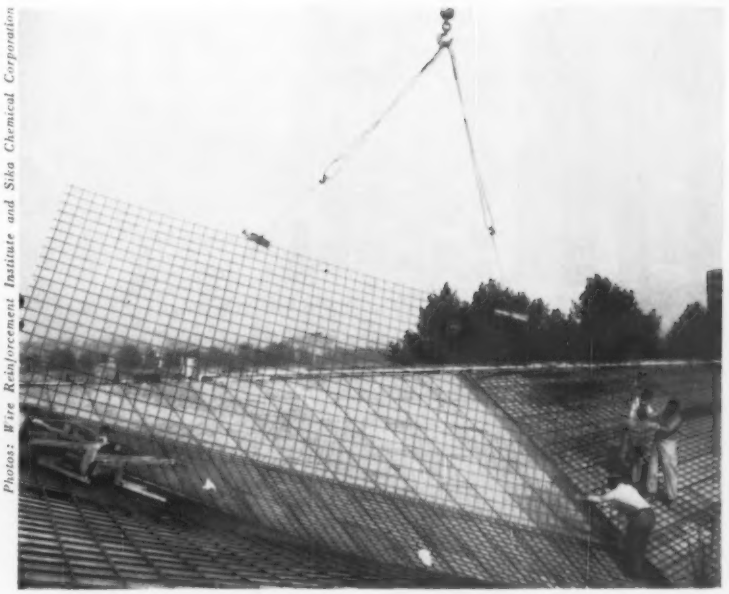
weight, a lightweight concrete was used.

Specifications called for a rapid strength-gain in the concrete, so that forms could be stripped for early reuse. Within seven days, the concrete had attained a strength of 3000 psi. After removal of the forms, shoring remained in place for at least 28 days.

A low water-cement ratio was also essential, to give a maximum 2″ slump and keep the mix stable on the steep slopes (45 degrees near the columns and averaging 36 degrees elsewhere). A retarding densifier added to the mix provided the required low-slump workability.

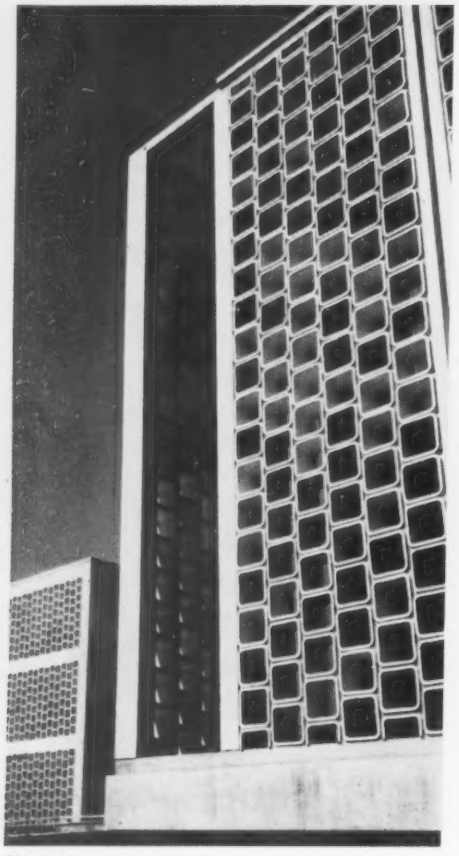
The umbrellas were cast separately in an alternating pattern. (It was feared that shrinkage between adjacent shells that were cast simultaneously might cause separation.) Because of the slope, concreting started at the high point of an umbrella and proceeded to the low point over the column. The retarding densifier kept the concrete from setting, and rapid bleeding after placement further reduced the slump, enabling the unset concrete to remain immobile on the slope. Fresh concrete was revibrated into the earlier-placed material, either in resuming work after a short break, or in joining the last strip of concrete to the first on an umbrella. Although the time span between start and finish of the first umbrella was six hours, concreting of the last umbrella was done in ¼ this time.

Photos: Wire Reinforcement Institute and Sika Chemical Corporation

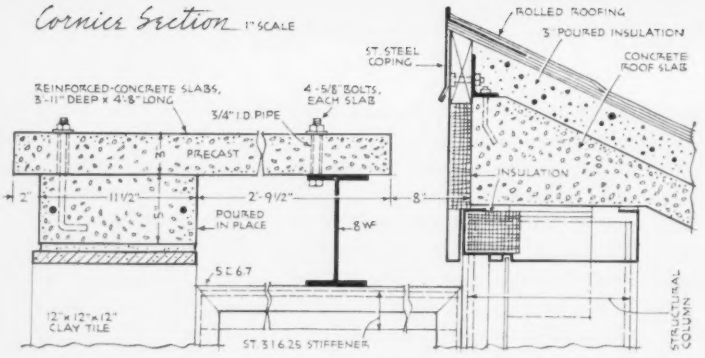


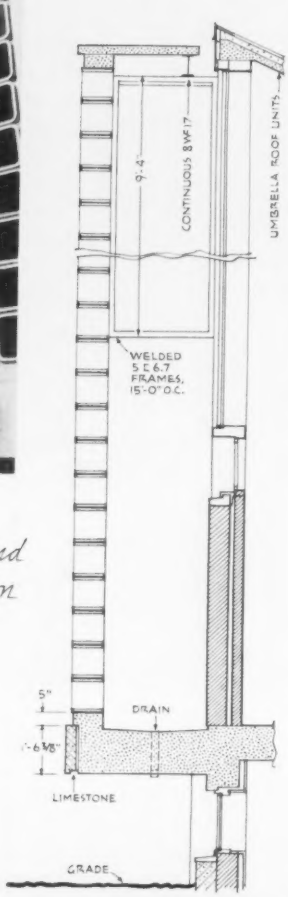
Because of shrinkage and possible separation, umbrellas were cast in an alternating pattern (acrosspage). *Reinforcing of the shells was in prefabricated mat form, making for easy handling, minimal on-site tying, and natural draping to the warped surface* (above right). *Concreting proceeded from outer edges to centers of shells, with a retarding densifier used to keep concrete immobile on the steep slopes* (right below).

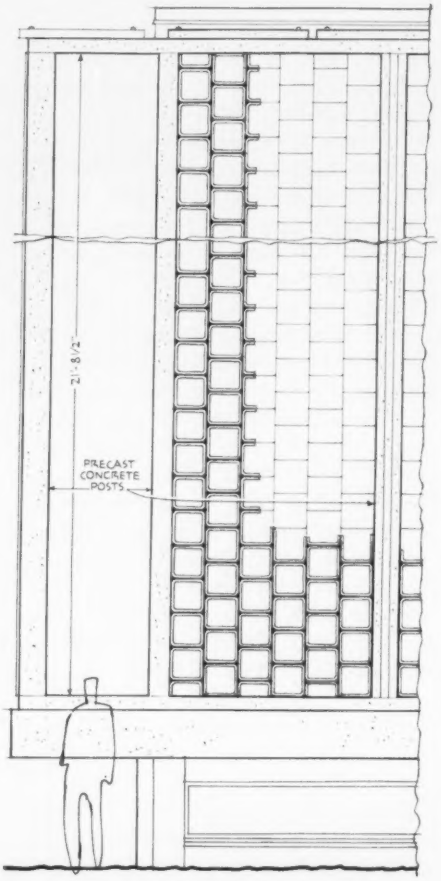
sun screen

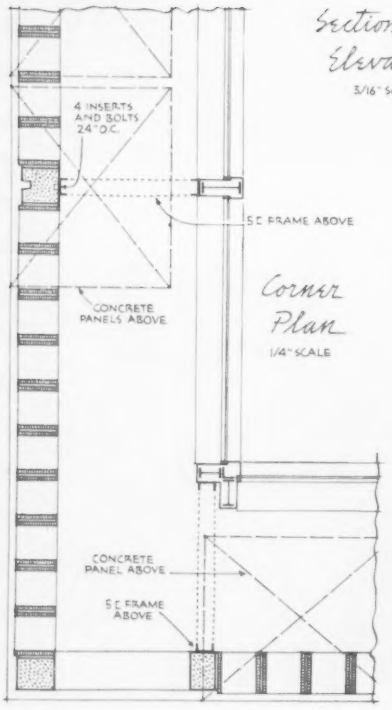


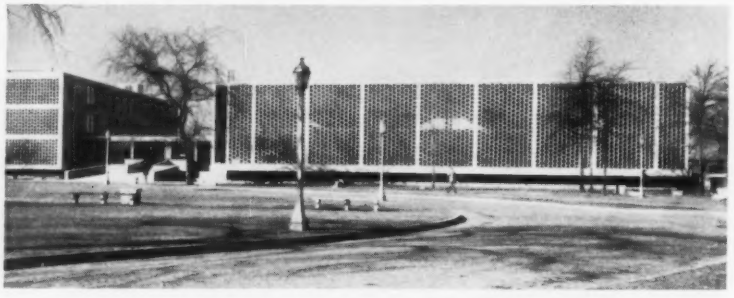
BEN SCHNALL





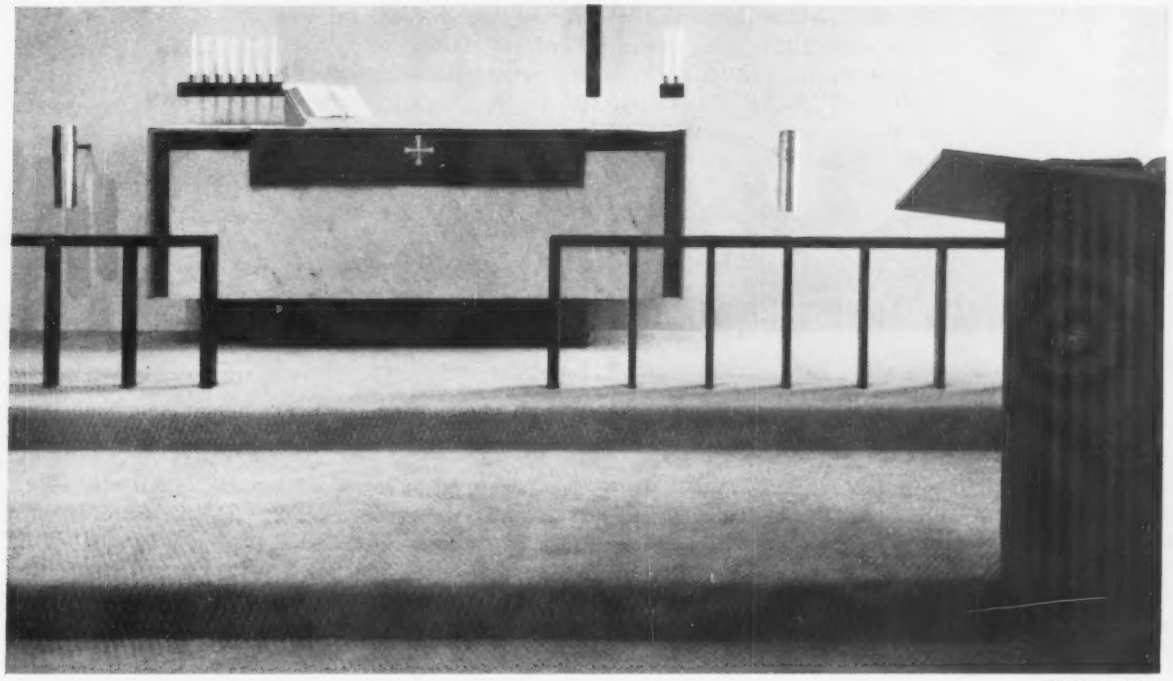




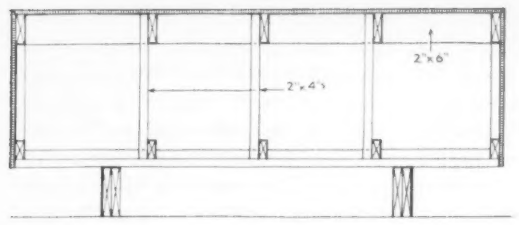


HUNTER COLLEGE, New York, N. Y.
Marcel Breuer, Architect

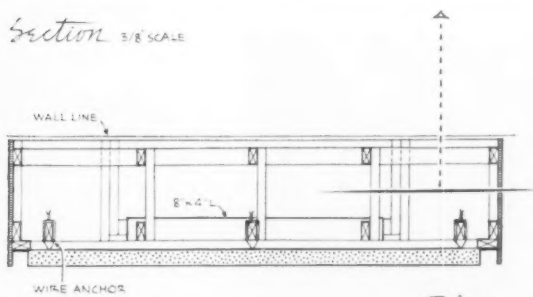
altar



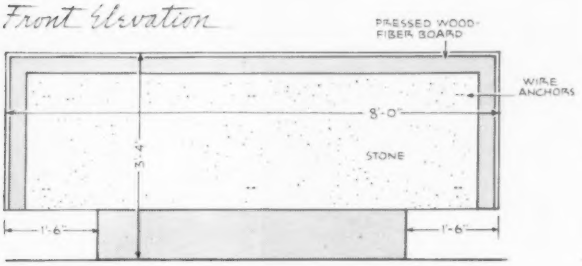
DEARBORN-MASSAR



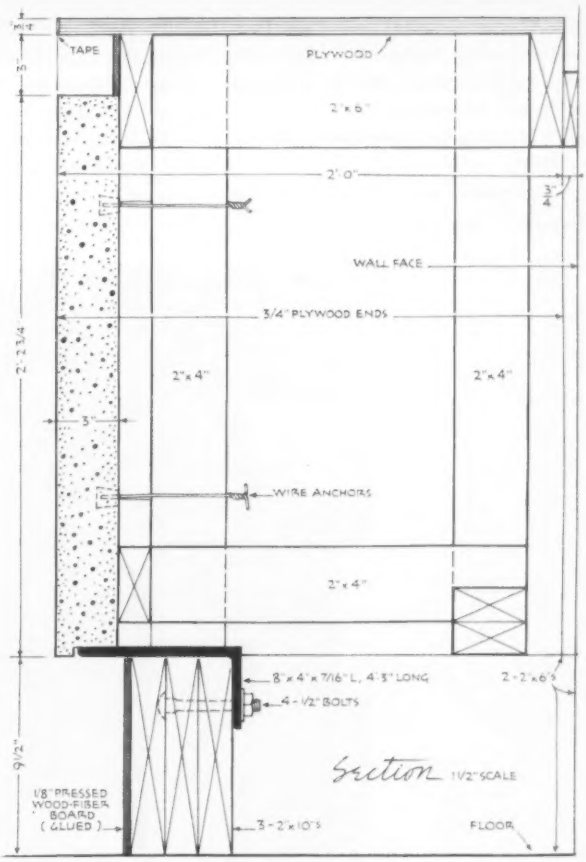
Section 3/8" SCALE



Plan



Front Elevation



Section 1 1/2" SCALE

CHURCH, Bellevue, Washington
Grant, Copeland & Chervenak, Architects

Ingenious and amusing towers built by Simon Rodia between 1921 and 1954 were recently ordered tested for safety. In performing the tests, Engineer Norman Goldstone discovered that, under certain conditions, the lathing wrapped around structural steel for fireproofing can carry as much load as the steel in slender, reinforced-concrete columns.

Watts Towers Show Structural Capacity of Lathing

by Phoebe S. Goldstone*

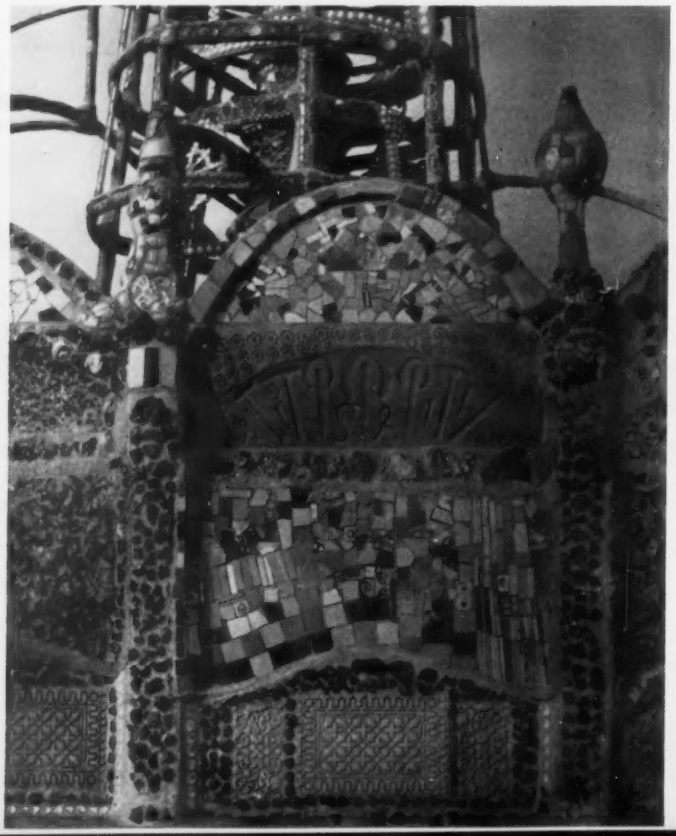
The structural test of Simon Rodia's redundant towers, successfully conducted last fall in Watts, California, proved that the lathing—wrapped around structural steel for fireproofing long, slender columns of reinforced concrete—is actually capable of carrying as much load as the steel, when the total steel and lathing is equal to four percent of the concrete.

In addition, the test proved the value of a new, economical remote-reading, linear-deflection transducer. This new device costs no more than a dial gage and should be marketed soon.

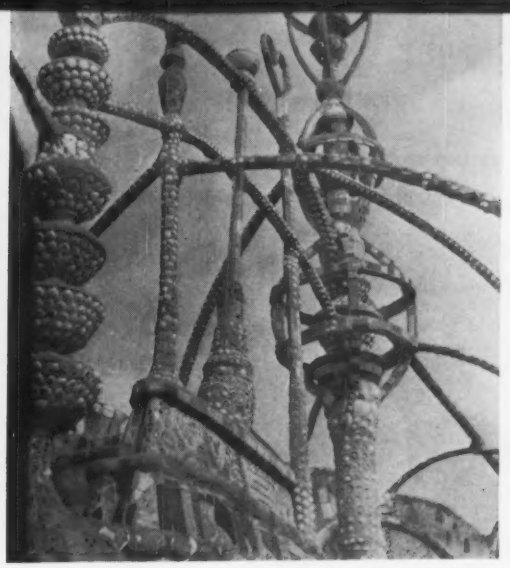
The Los Angeles Conservation Bureau had charged that the seven towers, built by Rodia between 1921 and 1954, were unsafe. In organizing technical evidence against this charge, Engineer Norman "Bud" Goldstone acquired valuable data developed by Smith-Emery, Los Angeles testing firm. This data included measurements of the footings of the tallest tower as well as an analysis of the chemical content of the cement and the strength of the steel, chicken wire, and cement which carry the tower 99½′ above the 2″-thick cement floor of the patio. Exposure of a joint revealed that no bolts, welds, or rivets were used in creating what appear to be the longest slender columns in the world. During construction, Rodia apparently wrapped ⅛″-diameter wire around 1¼″x1¼″x⅛″ angle sections at the joints, and covered it with cement mixed 4.23:1 by weight and 4.14:1 by volume (sand to cement).

An indication of the strength of his method is revealed in the way the towers withstood the 6.3 Long Beach earthquake shock in 1933, without signs of distress. This same shock rocked the foundations of Los Angeles' City Hall 10 miles distant to the northwest. Twenty-six years later, the 6000 members in Rodia's tallest "circle-within-circle-within-circle, hub-and-spoke" tower resisted a pull of 10,000 lb pressure—equal to 76 mph wind load—exerted in Goldstone's structural test. They took this with no signs of bending, buckling, or other distress.

* *The author wishes to acknowledge the co-operation of Norman "Bud" Goldstone, who devised and ran the Watts Towers test, and Los Angeles Architects Ed Farrell and Herb Kahn who assisted him.*



Rodia's initials, imprints of only tools he used, and typical mosaic pattern are repeated along 300′ wall surrounding towers.



The investigation indicated that Rodia also used 2½″x2½″x5/16″ T sections and 2″ o.d. pipe. Rodia's cement covering for the legs tested out to 3000 psi. The bond of the cement to the reinforcing members was "good." He rooted the 16 legs of the tower in a 7″-wide trench, 14″ deep, and used a foundation of 1:1 sand to cement. This tested out to 9000 psi.

On the basis of this investigation, Goldstone postulated a load path indicating that the load travels from the structural-steel reinforcing member to the splice area, then transfers, by bond, from the steel reinforcing member to the cement. It is then transferred by the bond of the cement to the chicken-wire reinforcement wrapped around the steel member, and finally, from the chicken wire across the splice. It then distributes in reverse manner back to the steel reinforcing member.

Going further, he also postulated that the ⅛″-diameter wire wrapped around the structural-steel members actually carried as much load as the steel. The proportion of total steel to total cement in Rodia's long slender columns was—and is—four percent.

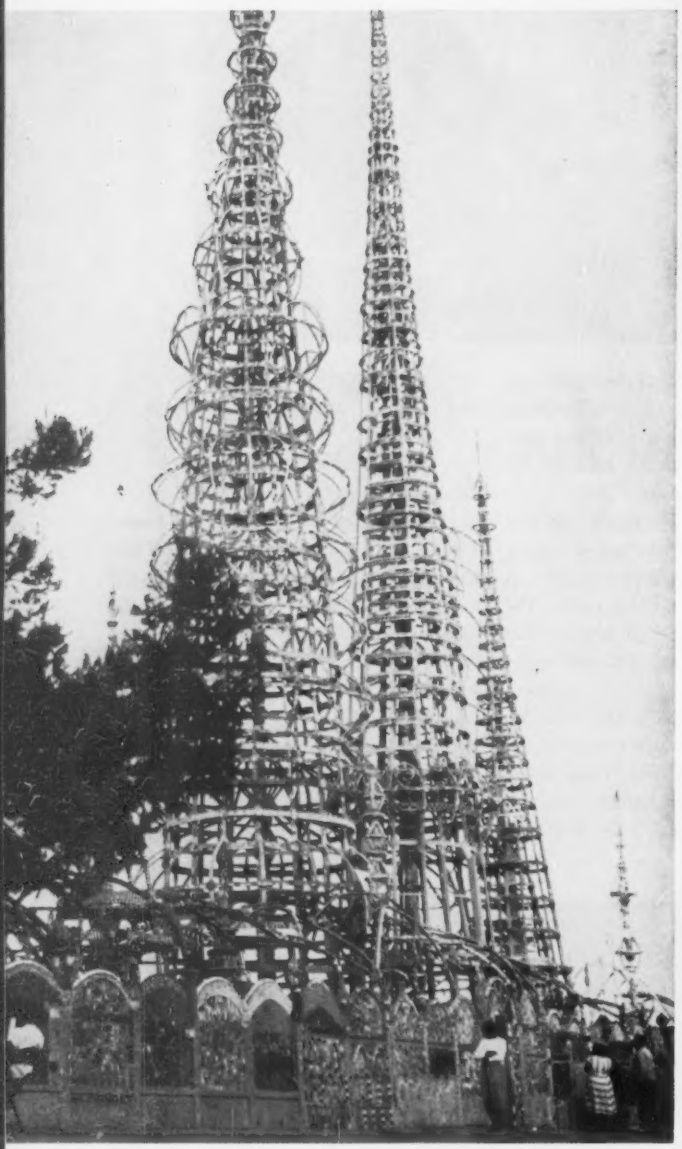
Using Section 91.2621—the Los Angeles City Building Code's formula for the maximum allowable compression load on reinforced-concrete columns, Goldstone proceeded with the following brief computation:

$$P' = P(1.3-.03\ h/d)$$
$$= P(1.3-.03\ 72/4.5)$$
$$= .82P$$
$$P = (.18\ A_G\ f'_C + .8\ f_S\ A_S)\ .82$$
$$= (.18 \times 7.16 \times 3000 + .8 \times 13{,}200/2 \times 1.09)\ .82$$
$$= (3850 + 5750)\ .82$$
$$= 7880\ lb$$

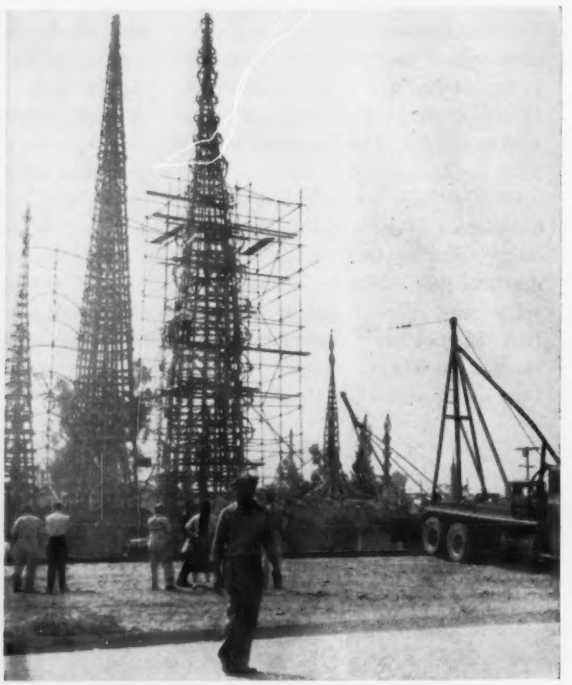
In the formula $P' = P(1.3 - .03\ h/d)$, h is the length of the unsupported tower leg, or 72″; d is the dimension of one side of the equilateral triangle shaped cross-section of the tower leg. In the formula $P = (.18\ A_G\ f'_c + .8\ f_s A_s)$, A_G is the gross area of the triangular cross-section, or 7.16 sq in.; f'_c was used as 3000 psi; f_s was used as 6200 psi; A_s was 1.09.

Although this formula and the computations were applied to the T sections, Goldstone believes it could apply equally well to the angle sections and tubes

Arched spokes radiate from hub to join slender columns; circular bracing runs between columns; semicircles add outside bracing.



Transducer (above) *records movement on remote panel.*



which are also used in the tower. As a final note concerning the computations, Goldstone adds that the exterior measurements of the legs are 4½″ to a side, where the leg is triangular, and between 3″ and 4″ in diameter where the legs are circular or oval. The longest unsupported length is 6′.

The load test, which was conducted on October 10, 1959, to prove that Rodia's non-conforming towers are actually structurally safe, also confirmed Goldstone's unconventional use of the Los Angeles Building Code's formula.

The test design called for repair of all cracks up to a height of 25′, rubber padding and 2′x4′ and wire-strap stiffening from 15′ to 51′ on the nine south legs of tower's 16, plus a whiffletree attached to web straps slung around the tower at 15′, 27′, 39′, and 51′. A hydraulic cylinder with 6″ travel was pressurized by a hand pump, transferring the load through the whiffletree and the straps to the tower. Since the scaffolding supporting the test rig was not tied to the cement, the load was reacted by cable on an "A" frame truck capable of maintaining 40,000 lbs direct line pull. The design also called for 10″ WF beam with truss, and 6″ I beams in the whiffletree.

Five transducers were used in the test, one placed to measure vertical movement at the junction of the due-south leg and the first horizontal ring, and one each at 15′, 27′, 39′, and 51′, to measure horizontal movement. The first was tied to the adjacent wall, the other four to the adjacent tower. A conventional strain gage was used in conjunction with a Baldwin Strain Recorder to provide stress readings in the T section reinforcement of the tower's due-south leg.

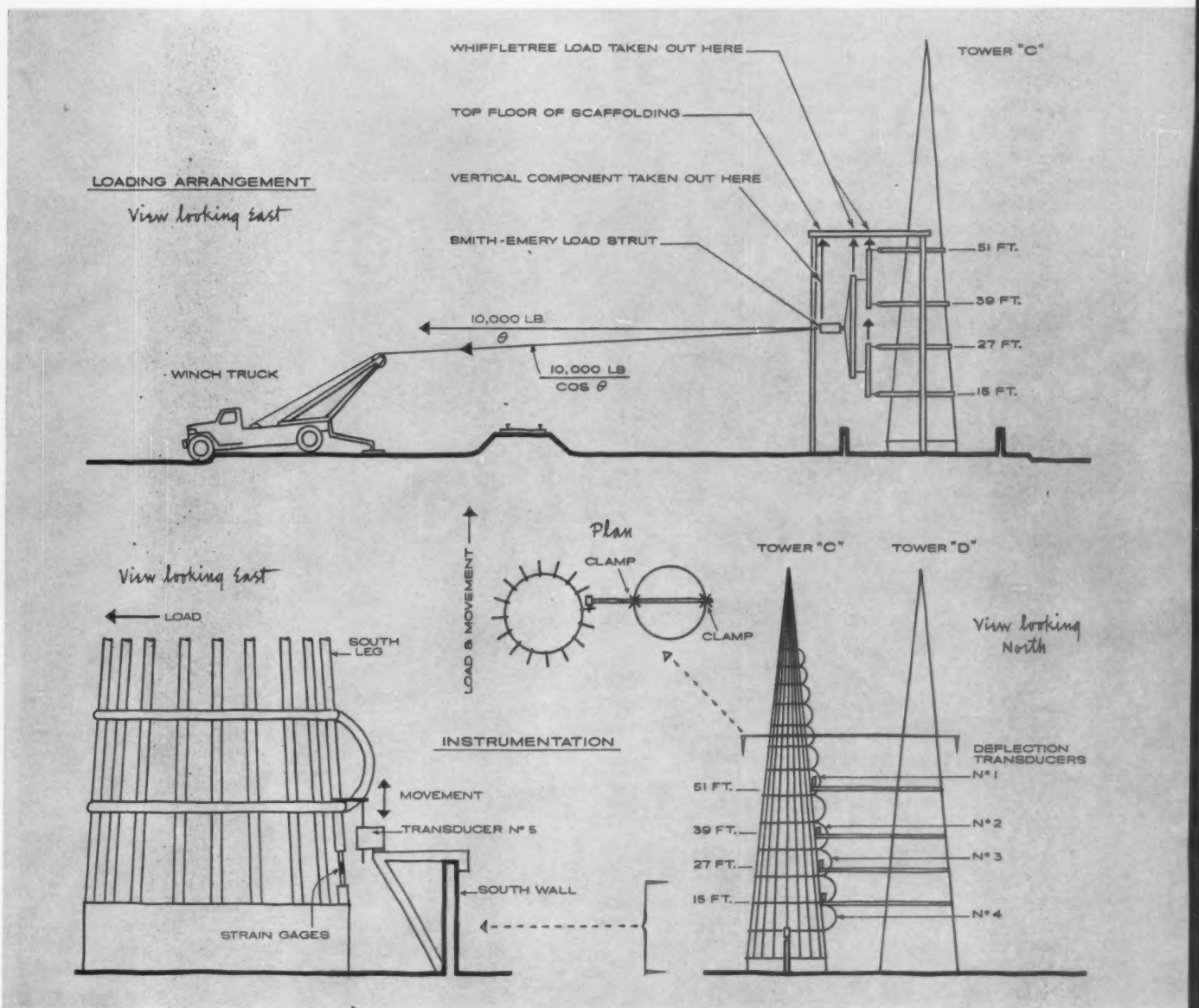
Pressure was built up in 500 lb increments, with pauses along the way to check readings and signs of distress.

Interestingly, the cable applying the pressure snapped from its frame during the test and the whiffletree finally gave way under the pressure, but the tower remained undistressed. The Los Angeles Conservation Bureau accepted the test as proving the towers safe. A favorable recommendation has already been issued by the hearing examiner for the case, and a representative of the Board of Commissioners of Los Angeles Building and Safety Department has removed the "unsafe" sign from the structure. The Department has ordered, however, that all broken and missing members be repaired and replaced, all possible cracks be filled with portland-cement mortar, and all surfaces be covered with a waterproof sealer.

"The successful conclusion of the test proves that the analysis' assumptions and the unconventional use of the reinforced-concrete column formula were valid," Goldstone concludes.

"Although the test was not taken to destruction, we went far enough to plot a curve of the tower's deflections. The test actually exerted up to 4000 lb compression on the tower's legs. The north leg, containing an angle, received this 4000-lb load. Since there was no bending, buckling, or other signs of distress, I feel it is reasonable to assume that a destruction test would have carried out a projection of the present curve of the strain-gage readings, probably beyond the figure in my conservative analysis.

"It seems possible to apply the evidence gained in the test to designing long, slender columns with no attachments. Where the proportion of total steel to total cement is the same as in Rodia's tower legs—four percent—the lathing can apparently carry as much load as the structural steel."



Unusual Method of Fabrication Welds Tapered Members

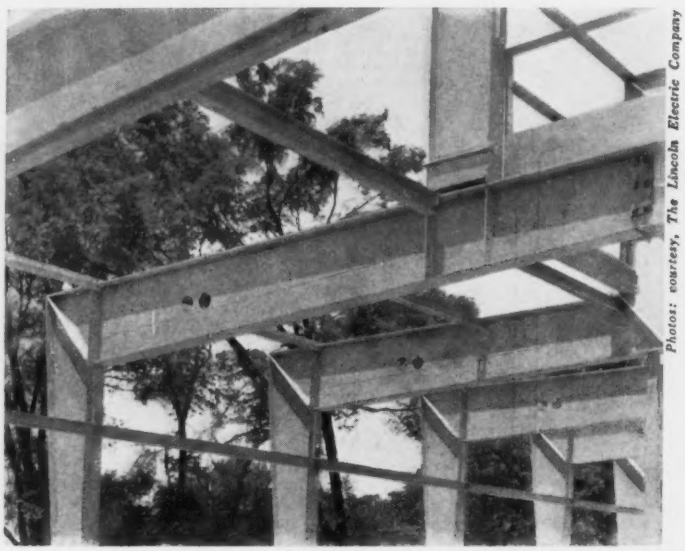
Tapered columns and beams, fabricated by a method devised to avoid waste of material and to assure accurate uniform elements, were erected in new high school designed by Woodie Garber & Associates. Submerged-arc welding process was used to carry out this fabrication system.

An usual steel skeleton—of 15 arc-welded rigid frames—is used in the new all-purpose building at Finneytown High School, Hamilton, Ohio. Woodie Garber & Associates were Architects for the project: Hanly & Young, Engineers.

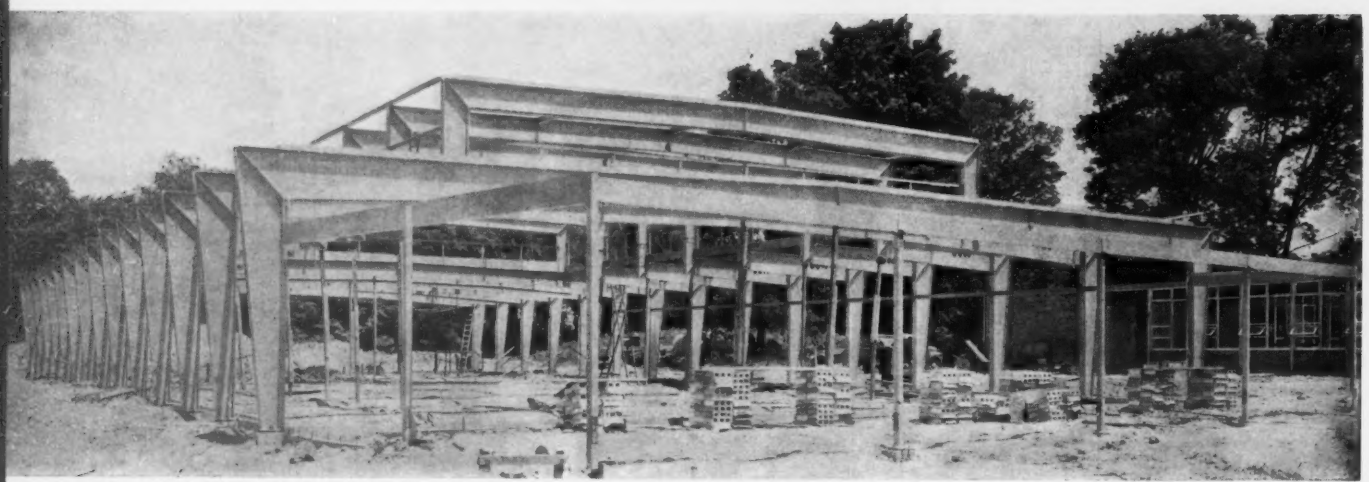
The tapered columns and beams were fabricated by a method devised to avoid waste of material and to assure accurate uniform elements. For the columns, 21 WF 62 beams were split by flame cutting diagonally along the web, then one half was reversed and the webs were butt welded together by the submerged-arc process. From a 32″ width at the top, columns taper to a 10″ width at the base. Span of the rigid frames, measured from column centers, is 75′. The building's length is 155′.

The portion of the rafters adjacent to the columns was fabricated in a similar manner, using one half of the split 21″ beam for the upper part and a welded T made of plates for the lower part, the two being automatically welded from both sides. In the center, the rafters are full-depth 21″ beams. The sloping bottom surface gives a height at the eaves of 14′-3″ and a height at the center of 15′. Seven bays of the center section form a clerestory which is 22′ above floor level.

Columns and connecting rafter end sections were shop welded at the diagonal knuckle joints, the submerged arc welding being done with the aid of semi-automatic equipment powered by a 600-amp generator. The center rafter section and clerestory elements were tied in by field welding.



Photos: courtesy, The Lincoln Electric Company



Wolmanized®

PRESSURE-TREATED LUMBER

ARCHITECT: JAMES E. COONEY
BUILDER: MOORE CONSTRUCTION CO.

Complete creative freedom... plus termite and rot protection

Dripping bathing suits; wet, sandy feet; rain and humidity—all forerunners of lumber decay and termite problems at seaside resorts—cause no great concern at the Dunes Village Motel, Myrtle Beach, S. C.

Thanks to the use of Wolmanized® pressure-treated lumber, Dunes Village Motel was able to take advantage of the warmth and beauty of wood and still not be faced with the loss of lumber caused by decay or termites.

Send for illustrated booklet entitled, "Safeguard Building Dollars." This informative brochure will give you the complete story on how you, too, may use Wolmanized lumber to prevent decay and termite damage.

Write to: Wolman Preservative Dept., Koppers Company, Inc.
752 Koppers Building, Pittsburgh 19, Pennsylvania

W-78

KOPPERS®

Wolmanized®
PRESSURE-TREATED LUMBER

DESIGN WITH LUPTON

when you have a problem project, as they did at the University of Missouri

Administrators at the University of Missouri had a problem. They wanted to maintain a traditional "house" system in their new women's dormitories. But rising construction and maintenance costs called for much larger buildings.

Architects worked out a compromise by designing large dormitory buildings, each with four separate "house" units within. General facilities such as a social area, mail desk and office were centrally located.

These dormitory buildings and the centralized cafeteria that connects to each of them by underground passageway were built with 1,850 LUPTON "Master" Projected Aluminum Windows. These windows have both outward and inward opening ventilators for healthful, controlled ventilation. And their simple, uncluttered lines mean maximum natural light . . . easy cleaning.

Also, LUPTON "Master" Windows are lightweight and accurately prefabricated for simple, economical installation. They're non-rusting . . . never need painting . . . exceedingly durable.

Most advantageous of all, though, is LUPTON's dependability. As proven in hundreds of jobs—including one of the largest curtain-wall installations in the world, Two Broadway, New York City—you can depend on LUPTON to meet your specifications, to deliver as scheduled. You can pinpoint responsibility because LUPTON can do the whole job—even install!

See SWEET's (Sections 3 and 17) for the Michael Flynn Aluminum Curtain Wall and Window catalogs, and write for further specific information. Inquire about LUPTON Comfort-Conditioning*—the new curtain wall system that cools, heats, and ventilates. A call to the nearest LUPTON representative (see the Yellow Pages under Windows—Metal) will bring fast action without obligation.

*Trade Mark

University of Missouri (Women's Dormitories and Cafeteria), Kentucky and Maryland Avenues, Columbia, Mo.

ALUMINUM WINDOWS

LUPTON®

METAL WINDOWS • CURTAIN WALLS

MICHAEL FLYNN MANUFACTURING CO.

Main Office & Plant: 700 E. Godfrey Ave., Philadelphia 24, Pa.; West Coast Plant: City of Industry, Calif. (Los Angeles County); Stockton, Calif.; Chicago, Ill.; New York, N.Y.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Texas. Representatives in other principal cities.

Architect: Hellmuth, Obata and Kassabaum, St. Louis, Mo. Contractor: D. C. Bass & Sons Construction Co., Bass Bldg., Enid, Okla.

"Gulistan makes the setting sumptuous! And in the long run... Gulistan costs less than hard-floor coverings,"

says **MITCHELL R. HOUSEY,** Proprietor, Maison Riviera Restaurant, Detroit, Michigan

Maison Riviera Restaurant. Custom carpet by Joseph C. Raymond, Interior Designer. Installed by Englander Furniture Shops, Inc.

"We spared no expense in decorating this luxurious restaurant. But Gulistan actually keeps expenses down—it wears so well."

With all these advantages—beauty, long wear, permanent mothproofing, soundproofing, safety—Gulistan needs so little care it cuts costs of floor maintenance up to 50% over other kinds of flooring. In limitless colors and original designs. Ask your Gulistan dealer about them. Or let us work out a one-of-a-kind design carpet for you.

More distinguished restaurants, hotels, theaters, banks choose Gulistan than any other carpeting.

Write: Commercial Department PA-4. A. & M. Karagheusian, Inc., 295 Fifth Avenue, New York 16, N. Y.

Sweeping glass façade in new wing of Roger Williams General Hospital contrasts sharply with brick façade of the old. L·O·F *Vitrolux*® heat-tempered polished plate glass was used in spandrels, *Thermopane*® insulating glass in the windows.

L·O·F GLASS visits a hospital where

every new room is a cheerful solarium!

There was a look of surprise on the visitor's face as he approached the new wing at Roger Williams General Hospital, Providence, R. I.

"Why, it doesn't look like a hospital at all!" he exclaimed to his friend.

We overheard this remark with interest because we had come here to get, firsthand, people's reactions to this remarkable hospital addition.

Viewed from the outside, the building looks more like a modern college dormitory—more hospitable than "hospital". The warm color of the glass spandrels suffuses the all-glass façade. There's an aliveness—a warmth—that contrasts sharply with the old brick building it adjoins.

We entered this new wing through welcoming glass

Crisp curtain wall design is by architects Howe & Prout, Providence, R. I. Hunter Green *Vitrolux* in large spandrels, Gun Metal *Vitrolux* in the small.

Window walls of *Thermopane* flood lobby with sunlight.

William E. Sleight, Director of Roger Williams General.

doors into a spacious, paneled lobby filled with sunlight coming through a large window wall.

Director William E. Sleight showed us through the new wing. On the first floor, pleasant offices and a medical library. Cheerfully painted private and semi-private bedrooms on the second floor. On the third floor, which is the "intense care" section, the rooms have large glass windows in the corridor walls so nurses can observe patients more easily. The same was true on the fourth floor, the pediatrics division.

Mr. Sleight said the new wing had been occupied, since September, 1959.

Question: And how do you like it, as compared with the old building?

Mr. Sleight: It's wonderful! So much more daylight. So much more cheerful. We feel that the large *Thermopane* insulating glass window areas contribute greatly to our pleasant and comfortable surroundings.

Question: Could you explain a little more fully?

Mr. Sleight: Well, this wing is air-conditioned year 'round. The old one wasn't. And although we have operating sash, we never have to open them, even in muggiest weather. In winter when it gets down to zero, we're still comfortable near the *Thermopane* windows and can enjoy the view outside.

Question: Do you figure that *Thermopane* will save on your heating and air-conditioning costs?

Mr. Sleight: I'm sure that it will, although we haven't been operating long enough to prove anything. One thing I've noticed, the windows don't frost up like they do in the old building.

Question: You have a parking lot and heavy traffic outside. Does the noise bother you?

Mr. Sleight: *Thermopane* helps there, too. Seems to muffle outside noise.

Question: How do the nurses and patients like it here in the new wing?

Mr. Sleight: Why don't you ask Miss Caggegi? She's our Associate Director of Nurses.

NANCY T. CAGGEGI
Associate Director of Nurses

Miss Caggegi: I've worked in this hospital for 20 years. There's no comparison between the old and new wings. There's so much more light. It's so bright and cheerful and quiet. Who wouldn't prefer working in these surroundings, if the work load and other factors are equal?

There's a difference in the way patients relax in the new building. They're happier. They don't ask to have their beds shifted, because all of them can see outdoors. And they don't request electric fans as patients do in the old building.

Playroom in pediatrics section appeals to children. Large windows create a friendly atmosphere.

DONALD J. PROUT
Architect

We next visited the downtown offices of the architects, Howe & Prout, designers of the wing, and interviewed Mr. Donald J. Prout.

Question: Why did you design curtain walls into the new building?

Mr. Prout: They gave us a far more clear-cut design. They're less costly to build, and take less time to erect. And the glass in the windows and spandrels will keep its appearance, year after year, much better than most materials.

Question: Do glass curtain walls create any problems during construction?

Mr. Prout: No, they're relatively easy to put up. No special tools are required. The "skin" goes on fast. It's fundamentally the same as installing the windows themselves. And, do you know, not a single glass spandrel was damaged during construction.

Question: What is your theory of using wall-to-wall windows in the patients' rooms?

Mr. Prout: Everyone enjoys sunlight, especially shut-ins. And being able to see outdoors without neck-craning relieves boredom. One reason we specified double glazing was so patients could enjoy the view without discomfort of drafts.

Question: What were the other reasons for using insulating glass?

Mr. Prout: To reduce air-conditioning and heating costs.

Question: Why did you use so many small panes of glass, rather than larger ones?

Mr. Prout: Primarily to create horizontal lines. And we sometimes have winds of hurricane velocities. If any panes need replacing, it can be done so economically.

Question: How do you keep heat out of the rooms in summer?

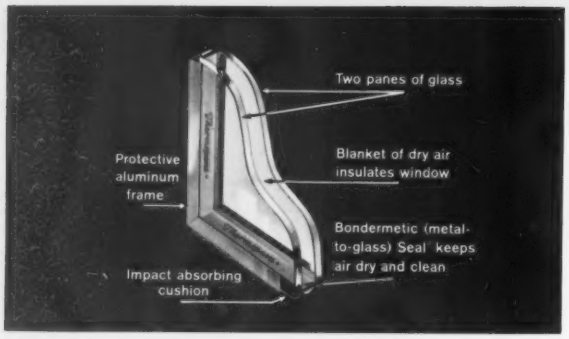
Mr. Prout: Here, again, insulating glass helps. In addition, protruding aluminum grid sunshades were installed above the windows facing south. These are designed to keep out rays from the high summer sun, yet permit the welcome rays from the low winter sun to penetrate deep into the rooms to keep patients more cheerful.

We left Providence with the feeling that the new wing at Roger Williams General was truly a hospitable place to be hospitalized.

Window areas in rooms of new wing are almost twice that of old wing. This is a visitors' waiting room.

L O F GLASS

You can see outside from any bed position in the new wing. Patients often feel "shut in" in an older room shown on right.

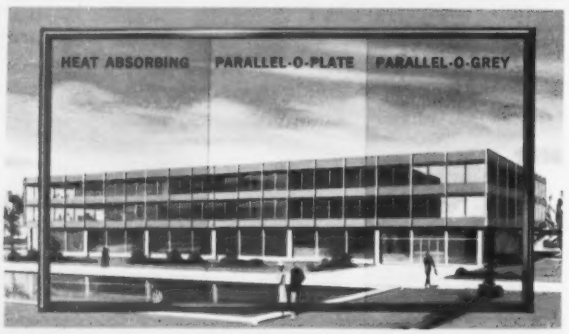

Two panes of glass
Protective aluminum frame
Blanket of dry air insulates window
Bondermetic (metal-to-glass) Seal keeps air dry and clean
Impact absorbing cushion

THERMOPANE®—For maximum comfort and for heating and air-conditioning economy, use *Thermopane* insulating glass in windows. Heat loss is cut in half, compared to single glazing. Drafts near windows are reduced. Outside noises are muffled. *Thermopane* is available with either a metal-to-glass *Bondermetic Seal®* and enclosed in an edge-protecting aluminum frame, or with a glass seal. *GlasSeal® Thermopane* is ideal for preglazed sash.

TUF-FLEX® DOORS—These frameless, clear-glass doors invite guests into a building. And they can withstand, with virtually no maintenance, all of the traffic they help create.

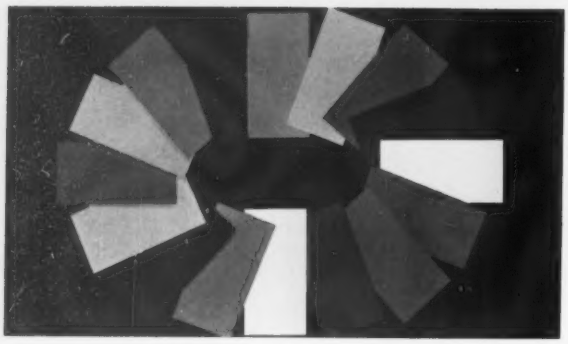
Made of ½″-thick or ¾″-thick tempered plate glass, they are 3 to 5 times tougher than regular plate glass of the same thickness. Sixteen types in finished sizes up to 48″ in width and 108″ in height.

Tuf-flex Doors are furnished complete with cast bronze or anodized aluminum fittings which are designed to take standard pivot hinges and builders' hardware.



THREE KINDS OF PLATE GLASS—To assure undistorted vision from inside and a richer appearance on the outside, use twin-ground, clear *Parallel-O-Plate®* Glass in windows. For control of sun heat and glare, use *Parallel-O-Grey®* or Heat Absorbing Plate. *Parallel-O-Grey* is neutral grey in color. Heat Absorbing Plate is pale bluish-green. Both effectively reduce transmission of sun heat to keep interiors cooler, but *Parallel-O-Grey* is more effective in reducing glare.

MIRROPANE®—Wherever it is desirable to observe people without their knowledge, *Mirropane*, the "see-thru" mirror, is the answer. On the brighter side it's a mirror that reflects objects in the room. From the darkened observation room, it's a window you can see through, but you won't be seen.



VITROLUX®—Used instead of masonry as an exterior facing material, also for interior partitions. Rich color, fused to the back of this clear, heat-strengthened plate glass, adds youthful beauty and cheerful character to any structure. It is resistant to weathering, crazing and checking. Standard maximum sizes of *Vitrolux* panels go up to 48″ x 84″. Special orders up to 60″ x 84″. Thickness: ¼″ plus 1/64″ minus 1/32″. Sixteen standard colors, plus black and white. Also in non-standard colors subject to manufacturing limitations.

L O F GLASS

For information on these L·O·F products, refer to Sweet's Architectural File 26-A, or call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to Libbey-Owens-Ford Glass Co., 811 Madison Ave., Toledo 3, Ohio.

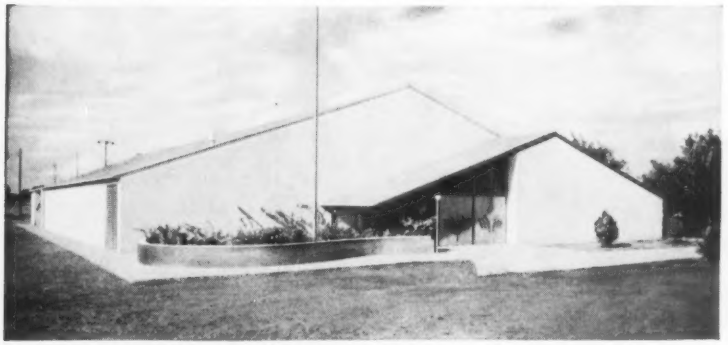
LIBBEY • OWENS • FORD *a Great Name in Glass* TOLEDO 3, OHIO

AP-605

Litho in U.S.A.

Butler "packaged" buildings–friend or foe?

Flowing Wells School–Pima County, Arizona–*Scholer & Fuller, A.I.A., Tucson, Ariz.*



A "packaged" building manufacturer asks architects not to judge it by association

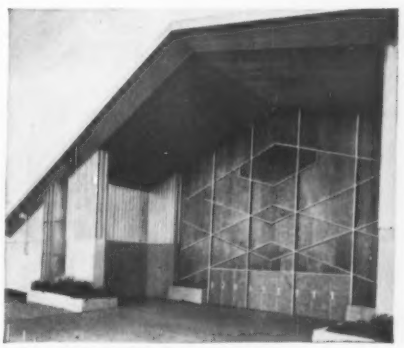
Are "packaged" buildings a threat to the architect, and to what he stands for? It seems that architects think so–and Butler received this news with considerable dismay. We can't testify for others, but we wish to make our position and intentions clear.

Yes, our Builder organization constructs buildings that are not architecturally designed. So do many contractors and engineering firms. A substantial number of these structures would never have involved or interested an architect in any case.

Architects have pointed out limitations in our building system to us, and we take these criticisms to heart. We are confident that we will eliminate these objectionable elements as our technology develops. Nor do we expect that the Butler "packaged" building will ever be the "grammar" of all low-rise construction.

But the fact remains that our Builders have constructed thousands of buildings *designed by architects.* Where the structure calls for it–that's the way we want it, and we help and encourage our Builders to work through architects. Conversely, architects have called on our Builders for assistance. Under these circumstances, the "package" we offer consists of coordinated structural and roof systems, and metal wall systems–both factory and field insulated. The architect takes what is useful and adds what collateral material creates the pleasing finished product.

From our experience with many architects, we have good reason to suggest that the Butler system can, on occasion, serve you better than anything else you could substitute for it.



Oklahoma State Fair Grounds
Sorey, Hill & Sorey, A.I.A.
Architects & Engineers
Oklahoma City, Oklahoma

O'Rielly Motor Co.
Starkweather & Cain, A.I.A.
Tucson, Arizona

Why not contact your nearest Butler Builder. Have him call and explore the practical merits of this system further. He can often help with building financing, too. Or write direct to Butler Manufacturing Company, 7510 East 13th Street, Kansas City 26, Missouri.

Exciting design ideas with POZZOLITH concrete...

Soaring Simplicity...
a new shape for reverence

Grace Lutheran Church, Denver—Soaring traditional church style and modern simplicity of design are tastefully blended in this new "church for today"—creating an atmosphere of dignity and reverence. Concrete was chosen as the logical building material to express this concept.

The church's precast-concrete supporting bents and wall panels of lightweight precast-concrete were manufactured at the job site. Corrugated end walls, roof and floor were poured-in-place.

Smooth, clean surface-textures and good density with no cracks were readily obtained with POZZOLITH—as were the high early and flexural strengths needed for tilt-up construction. Construction costs of Grace Church ($12 per square foot) demonstrated the economy of architectural concrete.

On your current and future projects call in the local Master Builders field man. He's at your service to demonstrate how concrete becomes a more versatile and more useful building material through the use of POZZOLITH.

The Master Builders Company, Cleveland, Ohio
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SPACE AND LIGHT . . . are subtly balanced to achieve a spiritual atmosphere in the church interior. The church seats 600.

MASTER BUILDERS®
POZZOLITH*

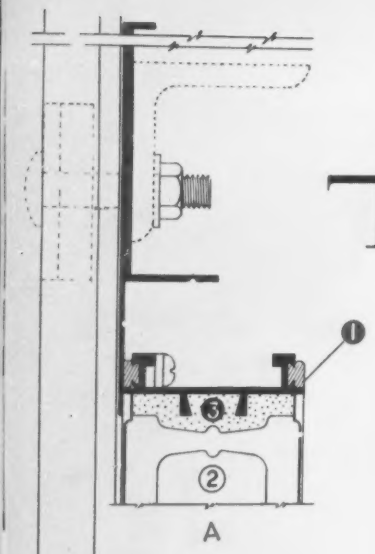
**POZZOLITH* is a registered trademark of The Master Builders Co. for its concrete admixture to reduce water and control entrainment of air and rate of hardening.*

GRACE LUTHERAN CHURCH . . . recently completed $110,000 contemporary church —part of a $350,000 church-and-school building program. Architects: Baume and Polivnick, A.I.A. • Consulting Engineer: Ketchum and Konkel • General Contractor: Lippert Brothers • POZZOLITH Ready-Mixed Concrete: Ready-Mixed Concrete Co. of Denver — all of Denver, Colorado.

Tests prove

THINLITE

Prefabricated Curtain Wall resists the onslaught of wind and water



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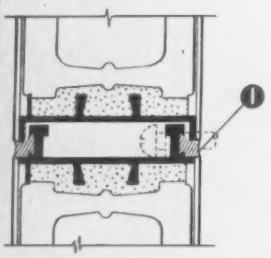

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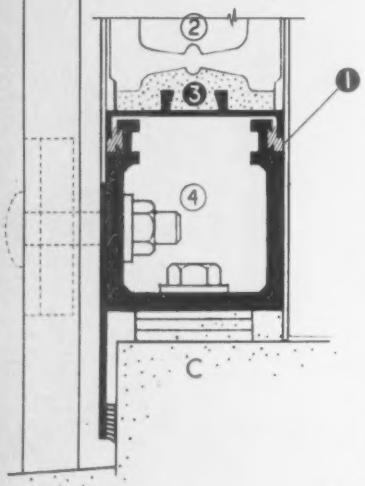

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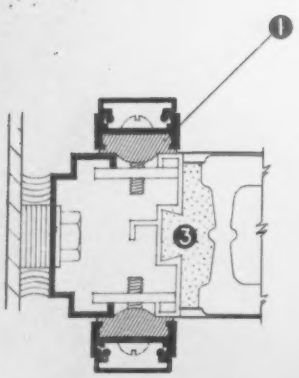

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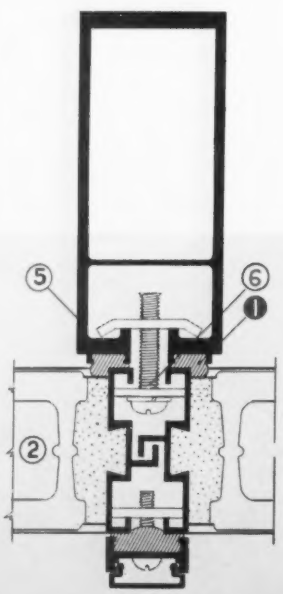


E

THINLITE is a completely weatherproof curtain wall system designed and factory-prefabricated to anticipate all weather conditions.

These are the features that make THINLITE able to withstand driving rain and freezing cold (see details at left and bottom):

❶ The system is double-gasketed throughout with long-lasting Neoprene. No field caulking is required except at building connections.

② Only two inches *thin*, hollow glass tiles have the insulation value of double glazing and prevent condensation during cold weather.

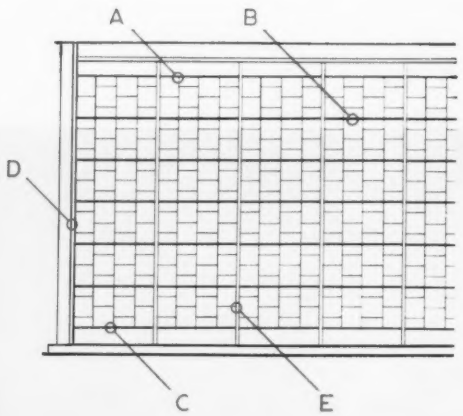
❸ Factory-controlled fabrication insures joints of uniform quality and density in the installation.

④ Built-in guttering handles any condensation which may accumulate in the system during cold weather.

⑤ Minimum of through-metal. For example, struts are insulated by Neoprene gaskets to prevent condensation on room side of wall.

⑥ Retaining bolts draw panels up tightly against vertical strut.

For complete details of THINLITE's superior construction features, write to Kimble Glass Company, Dept. **PA-4**, Subsidiary of Owens-Illinois, Toledo 1, Ohio.



Aircraft engine hurls gallons of water against THINLITE wall at near-hurricane velocity in weather-resistance test.

THINLITE Curtain Wall offers unlimited design possibilities with variety of color and material.

THINLITE CURTAIN WALL
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WEBSTER ELECTRIC COMMUNICATIONS
widest choice of versatile sound systems . . .
with exact fit for every installation.

WEBSTER ELECTRIC
Teletalk® INTERCOM BRIDGES
EFFICIENCY AND SMART STYLING!

There's more to Teletalk than meets the eye — this is the prestige intercom styled by Brooks Stevens with today's most advanced features for *instant voice contact.* "User" benefits that add versatility, convenience — cut costs, increase efficiency on the smallest to the largest installation.

Teletalk is available in the widest range of intercom models . . . desk and wall cabinets . . . matched accessories . . . capacities from 6 to 60 or more stations. Versatile! Teletalk can be a private system, or it can be used to page, make general announcements, distribute music.

Electronic advancements include Telebar central control, built-in silencing circuit, executive priority, printed circuits, transistor or tube models, visible and audible annunciators, handsets for confidential conversation. Cabinets are a harmonious combination of gold-tone grillwork and fine cabinetry in walnut or driftwood finish. Utility models have high impact cabinets for severe service.

Your Webster Teletalk dealer* can show you the wide range of models and tell you about the low-cost lease plan.

COMMUNICATIONS DIVISION
WEBSTER ELECTRIC
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Webster Telecom

This is an automatic dial telephone intercom. Ideal for widely scattered stations. It operates like city dial phones—has its own 48-volt power supply. Easily installed.

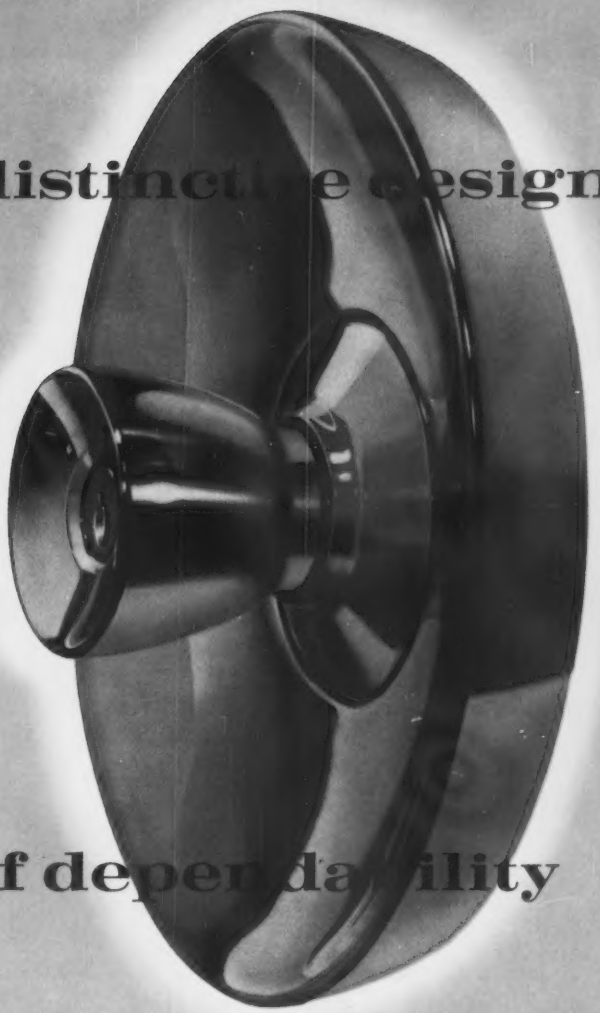
Webster Sound

Engineered sound components for custom assembly. Components include high fidelity amplifiers, control centers, tape decks, record players, AM-FM tuners; for paging, music distribution, communications.

* *See the Yellow Pages.*

franklin ad- M-161

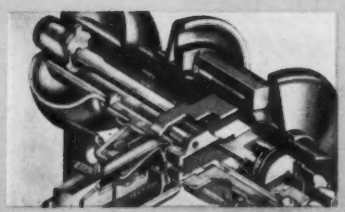
You see distinctive design



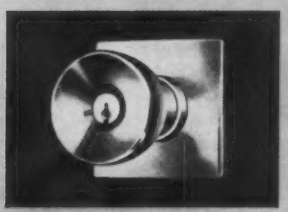
What you see is smart styling. What you don't see — yet is vitally important — is the rugged strength, superior workmanship, and dependability inherent in every Challenger lockset. The result: an unbeatable combination of quality in construction and appearance. That is why people who have ever specified, bought or used Challenger all agree — *there is no finer lock.*

Challenger locks are available in three complete series and full range of functions to provide a lock for every door — in any class structure.

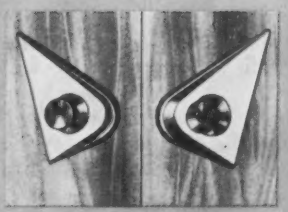
You're sure of dependability



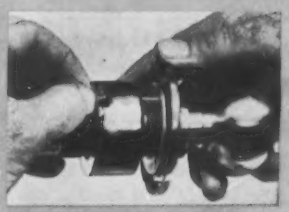
SMOOTHER ACTION and longer wear are assured with Challenger's extra large "sapphire-hard" spindle bearings. Micro-finish surface gives amazingly smooth gliding movement. Special aircraft, hard anodized aluminum alloy prevents rust or corrosion for longer, trouble-free service.



CLEAN DESIGN is paramount in all Challenger knobs. Many different designs and metal finishes as well as colored non-metallic materials provide a freedom of selection to meet any personal preference.



DECORATIVE TRIM in brass, bronze and aluminum and in a wide array of distinctive designs provide the smart styling and tone of good taste that enhances the beauty of any Challenger lock. Backset links permit choice of placement.



ROSE SECURITY PIN keeps outer rose from loosening. Spring loaded pin permits rose to rotate freely for easy adjustment to any desired position. Cannot be loosened by vibration or tampering. Better lock installations result.

CHALLENGER®

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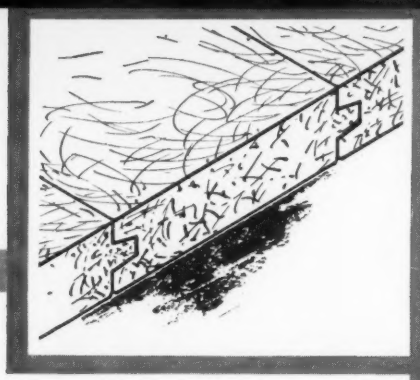

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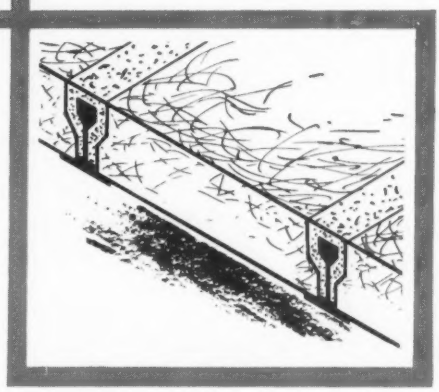

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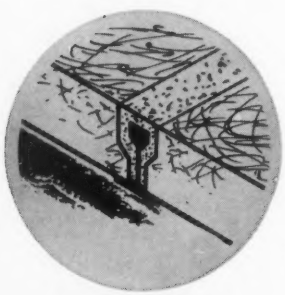

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Architecture's Forgotten Period

*By Nathan Silver**

From Baroque to Rococo: An Introduction to Austrian and German Architecture from 1580 to 1790.
Nicolas Powell. Frederick A. Praeger, Inc., 64 University Place, New York 3, N. Y., 1959. 183 pp., illus. $10

Today, years after the sparse industrial esthetic overcame revival styles as the model for architecture, decorative enrichment is being scrutinized more closely than at any time since the birth of the modern movement. Recent studies in architectural history have been particularly profound in reconsidering ornamental styles. Detailed analyses of the Italian Baroque have appeared in the last few years. Half-forgotten manifestations (like *Art Nouveau* and the work of Antonio Gaudi) are being examined by the most perceptive critics. Apart from regular historical scholarship, it seems that these studies are particularly pertinent in today's architecture. Is ornament a functional requirement of a building? To what extent must it be abstract in architectural usage? Can it exist for its own sake? Answers to these questions are worth deciding about, since it is obvious that modern Machine Classicism is about to give way to Machine Baroque.

This new book attempts to provide insight into an important period about which very little information in English has been available. Perhaps the best work in this language on the subject has been *German Baroque Art*, by Sacheverell Sitwell, published in the 'Twenties, with an out-of-print American edi-

(Continued on page 218)

* *Chief Architectural Designer, Brown Engineers, New York, N.Y., who studied and photographed Baroque architecture while a Fellow (1958-'59) of William Kinne Fellows Memorial Traveling Fellowship, Columbia University, New York.*

Photos: Nathan Silver

Vaulting detail (top) *and view of nave and choir of Neresheim, Benedictine Abbey Church (1745-'92) by Johann Balthasar Neuman.*

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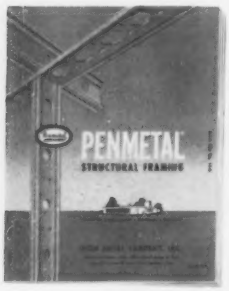

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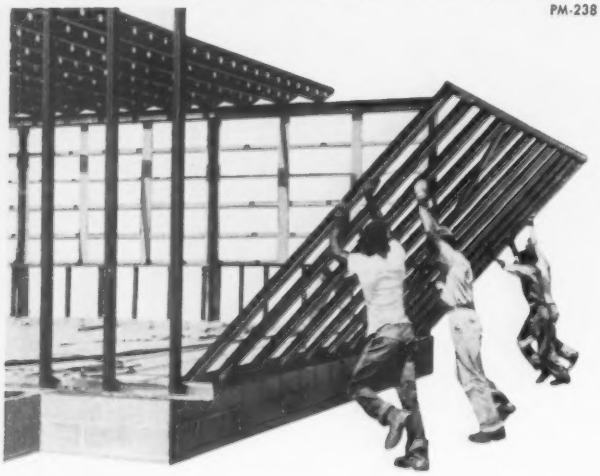

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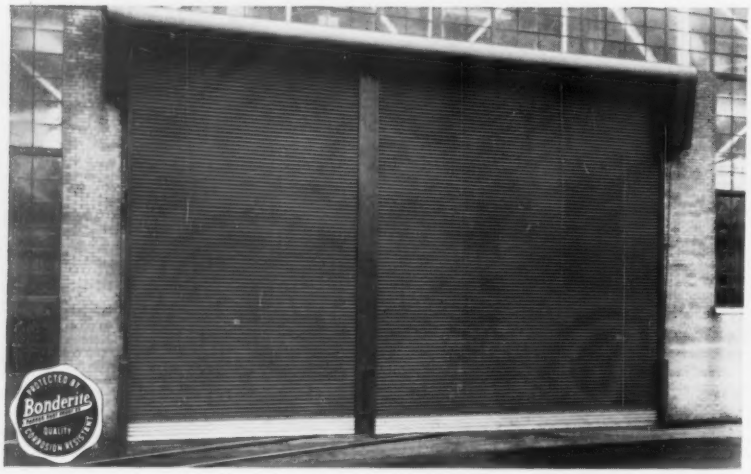

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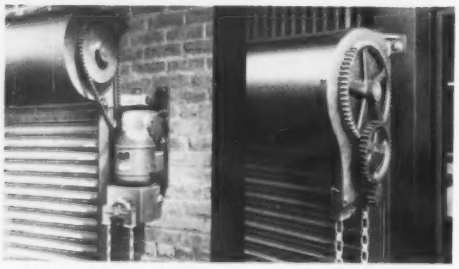

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reviews

(Continued from page 215)

tion of 1928. Last year, *Baroque Churches of Central Europe*, by John Bourke, appeared. Like Sitwell, his primary aim seemed to be the publication of a representative catalog of buildings (specializing in churches however), with sufficient data and opinions on each so that an interested traveler would find visiting them worthwhile.

While Powell's book covers much the same ground as Sitwell's work, with the addition of plates and correction of old misassignments, it cannot actually serve as an introduction to the subject because it presents neither a clear pattern of development in the text as *German Baroque Art* does, nor a convenient historical introduction as in the Bourke volume. "The art-historical pilgrim" for whom Powell chooses to write will not find the pilgrimage easy to follow. It is certainly true that the author of a book that must discuss so many individual projects is faced with a vast problem of organization. Should the material be arranged chronologically? Alphabetically? Regionally? The author tries them all at once, and leaves reconciliations to the index.

Some of the arbitrary groupings of work are at least questionable. Baroque architecture in Switzerland is considered with examples in German; and Bohemia, Moravia and Slovakia with Austria. This is not as sensible as it may first appear because of geography or political liaisons, since Swiss Baroque was largely the product of the Austrian Vorarlberg school; and the great Bohemian-Moravian practitioners were Dientzenhofers, who were Bavarians. Powell also follows the old-fashioned custom of separating "sacred" building from the "profane." This becomes difficult when trying to follow the work of a particular architect; and awkward in exploring the great abbeys with their state bedrooms, *Kaisersaals*, and libraries—or on the other side, the Electoral Residences, with their often deeply significant *Hofkirchen*. Monasteries were worldly places, and the fact is that the autocracy of the period was commonly temporal and spiritual simultaneously. In fairness, Baroque civilization presents such a closemeshed surface

(Continued on page 226)

Just 75 years ago, heating was about as unpredictable as the weather, as temperatures alternated between shivery low and smother-high. Then a Wisconsin schoolteacher named Johnson decided to do something about classroom comfort and thereby launched a new industry!

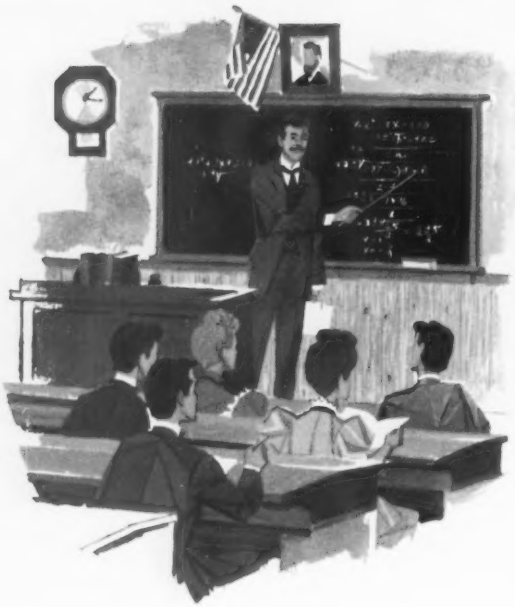
The Story of the Thermostat

Actually this is the story of a symbol . . . the symbol of an industry that has brought comfort, safety, better health, and efficient working conditions to people all over the world.

. . . In a specially equipped manufacturing plant, delicate missile parts and components, with micro-inch tolerances, must be made under temperature and humidity conditions that never vary. At every step in their manufacture, modern pneumatic controls assure error-free regulation of the thermal environment.

. . . In a hospital, surgeons perform a lifesaving operation. Accurate pneumatic controls maintain the temperature and humidity at preselected levels to conserve the patient's strength during surgery.

. . . Every morning of the school year, millions of students sit down to study and learn in comfortably heated and ventilated or even air-conditioned classrooms. To help provide this ideal environment, the great majority of schools and colleges everywhere depend on precision pneumatic control systems.



. . . Far at sea, one of the nation's deadly new submarines cruises undetected, an elusive, power-laden sentry of the "Silent Service." Her crew lives and works in comfort and safety — in a climate precisely regulated by a pneumatic control system.

. . . Across the continent, pneumatic controls assure safe air conditions in the highly critical processing areas of an atomic energy facility. Pneumatic controllers of extreme sensitivity operate constantly to assure safe disposal of waste air and prevent the escape of contamination.

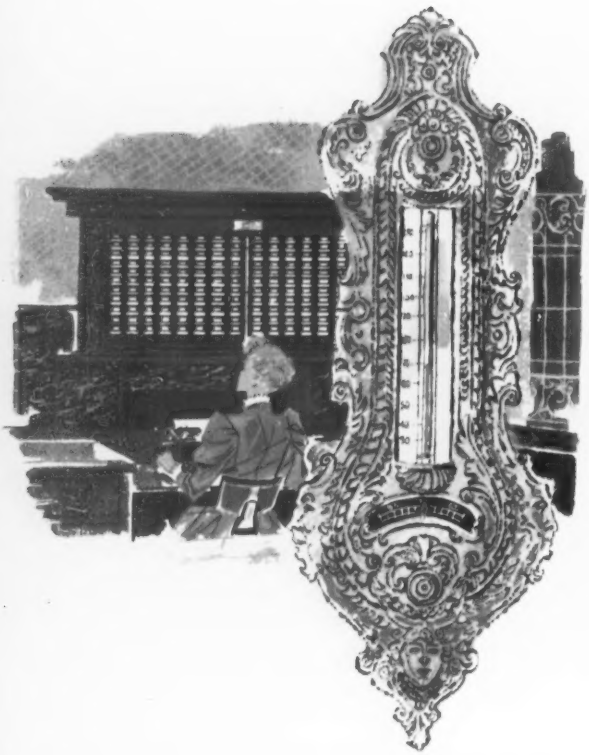
These are but a few examples of the ways in which modern pneumatic controls play a vital part in regulating the environment in which we live and work — helping to create made-to-order indoor climate for every purpose, controlling temperatures and humidities to a degree undreamed of when Professor Warren S. Johnson invented the first automatic temperature control system back in the 1880's.

Inventor at Work

Though he was probably unaware of the fact at the time, Professor Johnson became the founder of the automatic temperature control industry when he devised a practical way to eliminate the problem of classroom temperatures that seemed to zigzag forever between shiver and swelter.

His first attempt at control — the "annunciator" system — merely called the janitor's attention to overheating, or lack of heat, by ringing a bell in the furnace room. The janitor would then open or close the classroom dampers, as required.

But this land-based version of a ship's telegraph soon gave way to an all-electric method, utilizing a thermostat in each room that would open and close the dampers automatically. And so, the first system of automatic heat regulation was born.



The Electro-Pneumatic System

Intrigued with the possibilities of his long-awaited discoveries, Professor Johnson in 1883 left his post at Whitewater, Wisconsin, State College and came to Milwaukee to devote full time to refining and marketing the Johnson System.

His second major achievement, an electro-pneumatic control system, occurred almost at once. By successfully uniting the forces of *electricity*, for thermostat operation, and *compressed air*, for valve and damper operation, he developed a far more dependable and fully automatic control system. Finally he was ready to go out and revolutionize the comfort standards of the world. In 1885, he incorporated the business which today bears his name.

With branches established in Chicago, St. Louis, and New York, the Johnson thermostat on the wall soon became a familiar sight in the leading buildings of the day. Schools, prominent residences, and small business buildings were first to enjoy the comforts and economies of automatic control. They were followed closely by colleges, hospitals, public buildings, offices, stores, and industrial plants.

From Mikado to Czar

Acceptance grew, markets widened. The fame of automatic controls traveled fast and far. Before 1890, the city of Berlin, Prussia, had written a report about the efficiency of its Johnson System. Later, the palace of the Mikado in Japan was equipped with Johnson Control. The King of Spain and other European royalty became Johnson customers. A special installation was made in the Kremlin in Moscow!

Single Responsibility

Professor Johnson had the foresight to realize that the key to his success depended upon the *proper application* of his controls. Accordingly, he determined, from the outset, that his company should *never sell devices,* but should sell a *principle of control.* This meant that each system would have to be planned, manufactured, installed, and serviced *by Johnson* to meet the exact needs of the individual building.

Over the years, this policy of complete responsibility by a single specialized organization has insured owner satisfaction and saved untold millions of dollars for Johnson customers.

Carrying out this policy has also resulted in the closest possible working relationship between the Johnson organization and the nation's consulting engineers and architects, in a joint effort to provide ever better control of thermal conditions.

Many Johnson "Firsts"

The history of the thermostat and the Johnson Service Company coincides with the period when other pioneers were busy introducing innovations in heating, cooling, and ventilating methods and in developing full-scale air conditioning. Working closely with the research staffs of these manufacturers, Johnson engineers were able to supply the most effective controls for every new development in basic equipment. This cooperation has continued and flourished to the present.

Over the years, the Johnson Service Company has been the source of a never-ending flow of new ideas, which have included virtually all of the key developments in the field of automatic temperature control!

By far the most important was the all-pneumatic control system, perfected in the 1890's and still the standard everywhere. Others include the all-metal thermostat, the famous *Dual* or day-night thermostat, the heating-cooling thermostat, summer-winter thermostats, the airstream thermostat, master-submaster thermostats, supersensitive gradual-acting thermostats, and powerful piston damper operators.

Another famous development was the Humidostat or humidity regulator. And, of course, the Comfostat, an exclusive Johnson instrument that controls room temperatures in relation to humidity conditions. The popular pneumatic control center, for centralized supervision and control of modern air-conditioning systems, also was first perfected by Johnson.

Uninterrupted Progress

As the concept of controlled environment gathered momentum, so did Johnson. Important "firsts" became routine jobs, as the industry looked to Johnson for the answers to new control problems. From the simple comfort needs of the buildings of the 80's and 90's, to the history-making demands of the first scientifically air-conditioned building, down to the most complex requirements of today's commercial and industrial buildings, Johnson has been the leader in the pneumatic temperature control field.

Today, wherever you go, you'll find the important buildings are equipped with Johnson Control. From the fabulous Fontainebleau Hotel to the mammoth Merchandise Mart to the famous UN Secretariat Building . . . in schools, hospitals, sprawling defense plants, research laboratories, vital military installations, shopping centers, in buildings of *every* size and type and in ships at sea . . . there are temperature and air-conditioning control systems by Johnson.

Johnson Today...and Tomorrow

To make certain that each installation performs up to expectations, Johnson backs its engineers with the most complete line of pneumatic temperature, humidity, and pressure control equipment in the industry.

To serve you most efficiently both before and *after* a sale, Johnson maintains the largest and most experienced field organization in the industry, with 107 completely staffed branch offices in the United States and Canada, plus full-time, factory-trained installation and service mechanics in over 200 other cities.

This is by no means the end of the story of the thermostat. For against this unmatched background of innovation, experience, and service, Johnson's never-ending search for new and better controls will inevitably lead to dramatic new ideas in the years ahead. As the day of completely air-conditioned cities approaches and as new and unprecedented demands for precision controls evolve, the forward-thinking Johnson organization will always be ready with the right answers.

The Johnson research and development staff and facilities have been expanded three times in the past four years. And final plans for the next major expansion are already underway! In the future then, as in the past, you can continue to look to Johnson for the world's finest controls!

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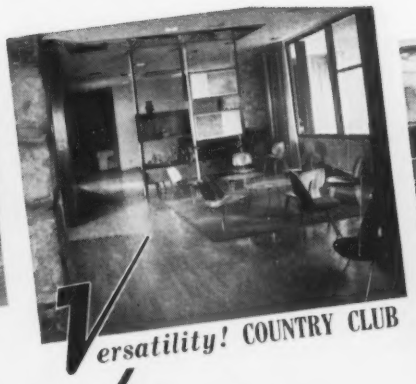

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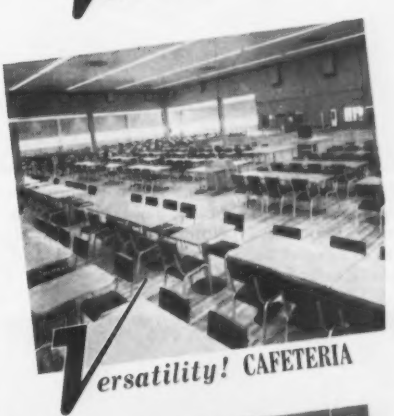
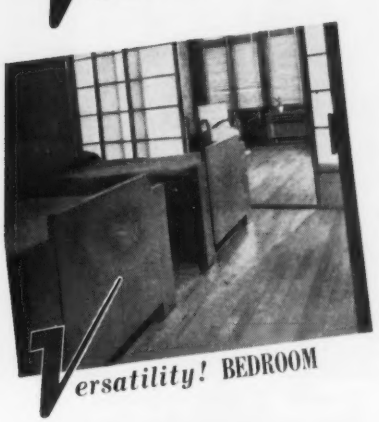


Versatility! CAFETERIA



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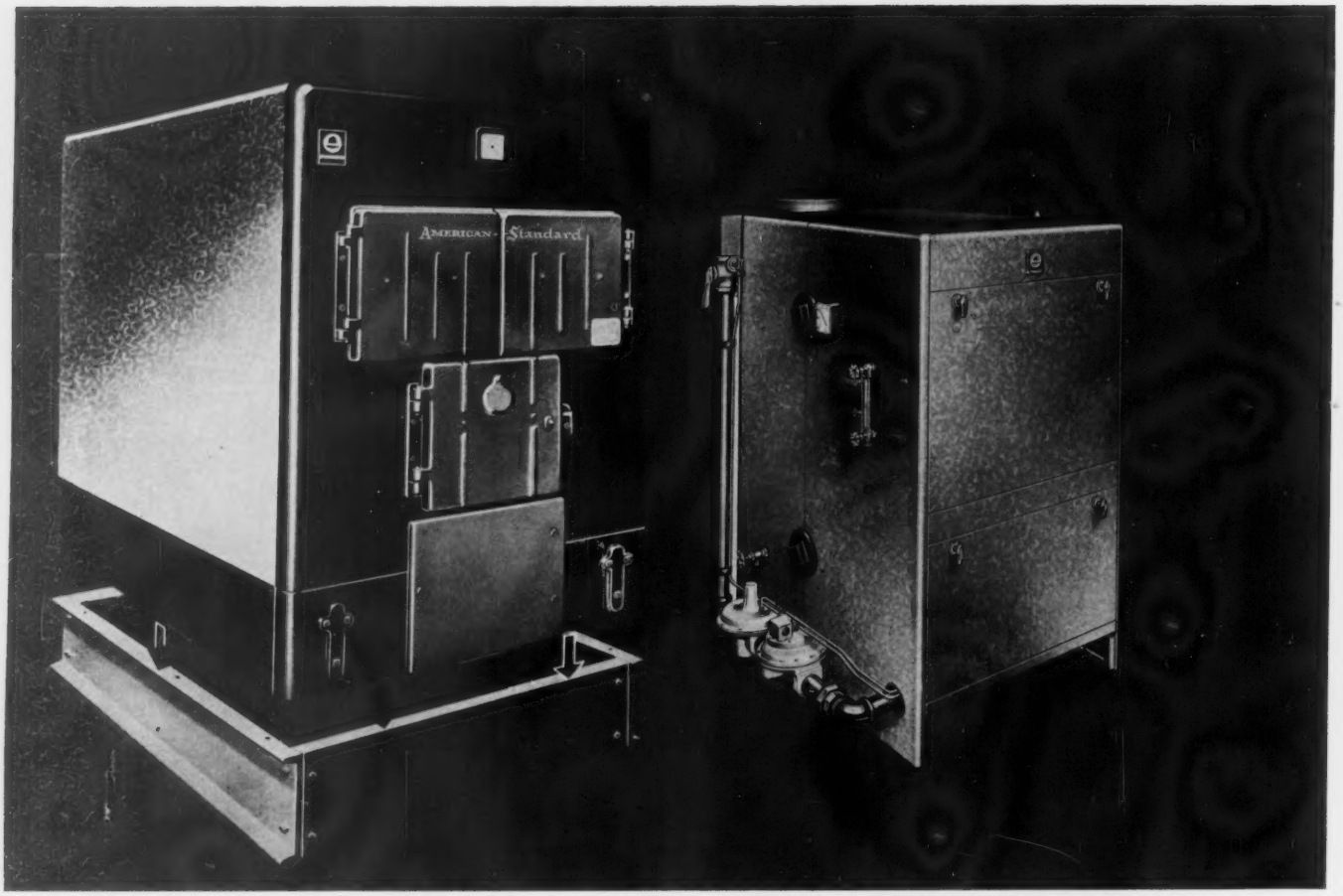
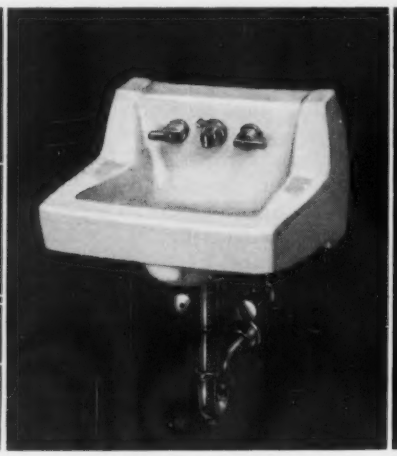


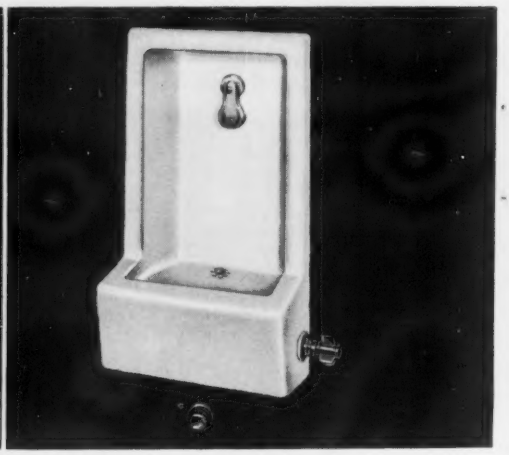
High-capacity oil boiler: The A-7 is also available for coal. Unique new design of internal circulation gives fast, smooth steaming. Optional pedestal base eliminates expense of special base or pit. Forge Red and black steel jacket. Easily installed in batteries.

Compact gas-fired boiler: The G-6 requires minimum headroom—just 65", even for the largest capacity model. Enclosed in a Forge Red steel jacket, G-6 presents a clean appearance. It is ideal for installation in batteries and approved by the A.G.A. for all gases.

Combination drinking fountain-receptor: Ideal for laboratories, home-economics rooms, lower grades. Ledgeworth provides anti-squirt bubbler and self-closing glass filler. Latter has gooseneck with stream regulator. Acid-resisting enamel on cast iron.



Extra-sturdy lavatory: The Firmledge is built to withstand wear and tear of school washrooms. Integral china bracket provides extra support to hold unexpected weights, eliminates extra supports. Made of vitreous china.



Cuspidor: The Seredor for locker rooms and gymnasiums has a sanitary flushing water spreader, self-closing valve and handy cleanout extension below. Easy-cleaning vitreous china.

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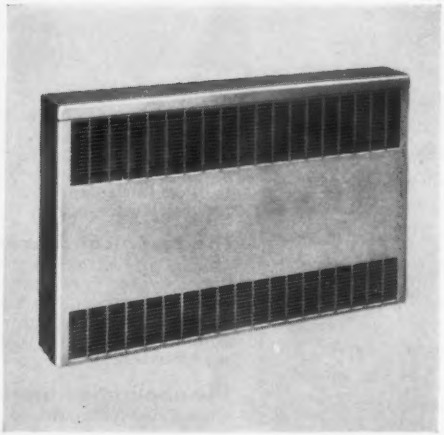

Multifin Convectors: Provide low-cost hot water or steam heating comfort for every type of schoolroom. Sturdy steel cabinets, with rounded edges and corners, are available for free-standing, partially or fully recessed installation made in a wide variety of styles and sizes. Type FG shown.

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(Continued from page 218)

it's hard to see where it can be pulled separate anywhere. But hopefully, a subsequent edition will reorganize the material into more consistent fabric.

A more serious fault in the designation of this book as an "introduction" is the supposition of special knowledge of the times. I think it is too much to expect, even of sophisticated English readers, that they be aware, for example, of the significance and outcome of battles in the Thirty Years' War.

Even though a full-dress reaction to the inert classicism of the Renaissance seems to us to have been inevitable, particularly when the pattern could already be seen in Michaelangelo and Correggio, it still took special circumstances to induce the Baroque Style. One such circumstance was the formation of the Jesuit order in 1540, which, as a group devoted to proselytization, needed an architectural instrument. Another was the Council of Trent, ending in 1563, that defined the role to be played by the arts in the reformed community. Starting with the Michaelskirche in Munich, the influence of the church of the Gesú in Rome began to spread in the north, and with it the prestige of its style.

The Thirty Years' War redistributed power and wealth among the princes of the various German states. They turned to the arts much as the patrons of the Italian Renaissance did, and began to build in Baroque, by then chic, for the grandeur of the establishment. In Vienna, the repulsion of a Turkish invasion in 1683 enhanced the reputation of the house of Hapsburg all over Europe, and left the Austrian Empire with genuine heroes to celebrate with palaces and landscaped property. Besides the example of the churches, Baroque secular architecture got its earliest contributions from bilingual Italian-Swiss architects who began to work in Bavaria, and North Italians who had built fortifications in Austria and stayed on to build palaces.

But the greatest architects of the unfolding period were the native Germans. This came about with the transmigration of the style itself, and can be illustrated as early as 1583 in the Munich Michaelskirche, where the typical Italianate full dome and drum was apparently rejected as uncongenial. Since a style is no more than the expression of an age and a spirit, it had to fall to the local practitioners to reflect the temper and taste of their own kind. So almost every level of society came to have its poet laureate. The Asam brothers devoted the greatest of their work to the monastic orders, as in the Augustinian abbey church at Rohr and the Benedictine Weltenburg. The powerful Austrian nobility turned to Fischer von Erlach and Lukas von Hildebrandt for their architectural monuments, who took the Versailles principle and transformed it into the Baroque scheme of the Vienna palace, a new standard for the aristocracy of Europe, and still a model for the world today as a brilliant plan in public building (the scheme, essentially unchanged, can be seen in the newest American embassies and consulates abroad). Domenikus Zimmermann, originally a stucco artist, became an architect whose churches at Steinhausen, Günzburg and in Die Wies were lyrical expressions most closely sensitive to Bavarian understanding of the design of God. The simplicity and unity of his plans symbolically describe the worship of a community of devout peasants; and the light cartouches and flourishes, the animals, insects, and birds hidden in the stucco at Steinhausen, show Zimmermann as a firm exponent of the esthetics of folk art.

Powell devotes a special chapter to Patronage, which describes the magnificent role played by many not only in personal expense but also in the discovery and development of talent. Max Emanuel of Bavaria brought Italian, French, and Flemish artists to his home. He even encouraged François Cuvillíes, his court dwarf to become an architect. Cuvillíes' stature is measured today by the Amalienburg pavilion in Nymphenburg Palace, which Sitwell called "the supreme monument to its period;" and the court theater in the Munich Residenz, recently reconstructed and one of the most perfect rococo theaters in Europe. The Schönborn family provided encouragement and munificence on a matchless scale, and the greatest of Baroque archtects, Balthasar Neumann, was a Schönborn beneficiary.

(Continued on page 230)

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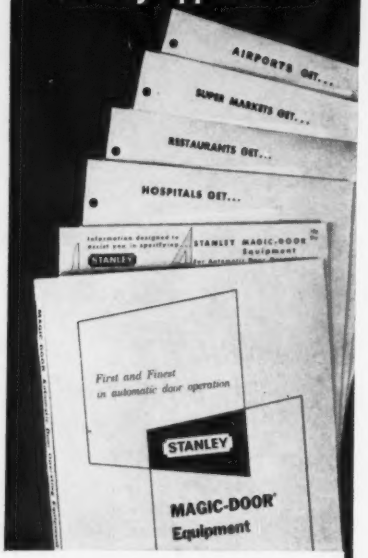

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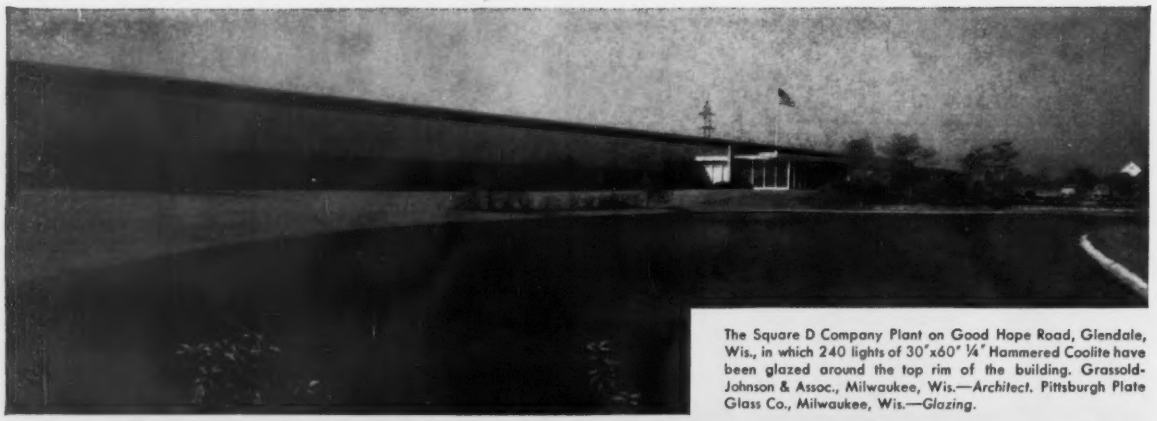
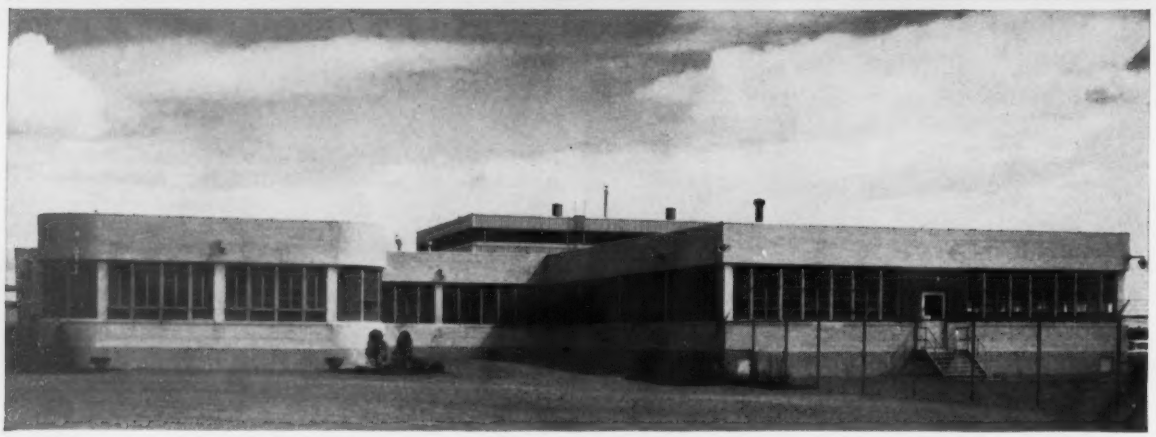
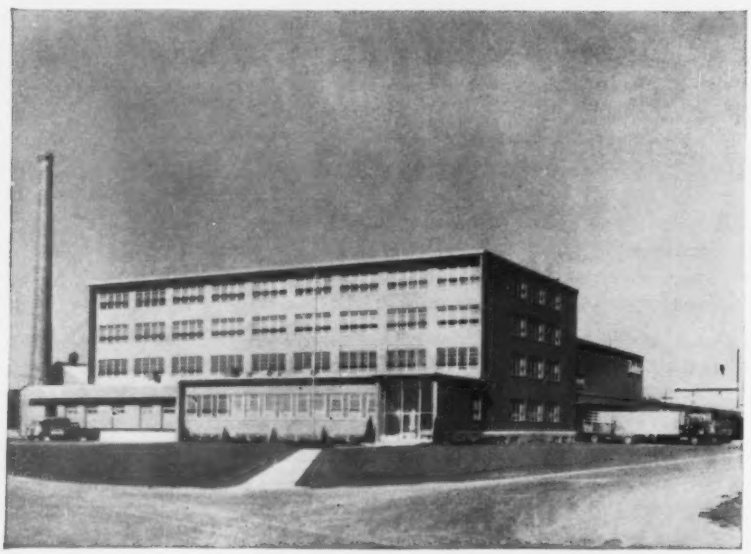


The Square D Company Plant on Good Hope Road, Glendale, Wis., in which 240 lights of 30"x60" ¼" Hammered Coolite have been glazed around the top rim of the building. Grassold-Johnson & Assoc., Milwaukee, Wis.—*Architect.* Pittsburgh Plate Glass Co., Milwaukee, Wis.—*Glazing.*

MISSISSIPPI GLASS . . .



Speer Carbon Company, Niagara Falls, N. Y. Laboratory glazed with ⅛" Luxlite Coolite, Glare Reduced One Side. Pilot house glazed with ¼" Luxlite Coolite Wire Glass. Otto Preis, New York, N. Y.—*Architect.* Walter J. Johnson, Niagara Falls, N. Y.—*Contractor.* United Glass Company, Buffalo, N. Y.—*Glazing Contractor.*



Borden Foods Company, Plymouth, Wis. South, east, and west elevations glazed with ⅛" Mississippi Luxlite Coolite, Heat Absorbing Glass. Cowell & Robinson, New York, N. Y., —*Architects-Engineers.* McDonough Construction Company of Georgia—*Contractors.*

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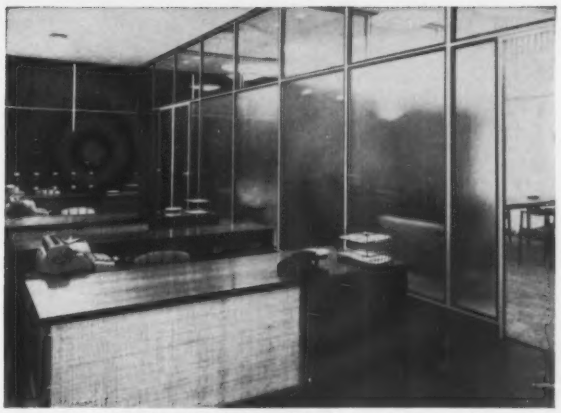

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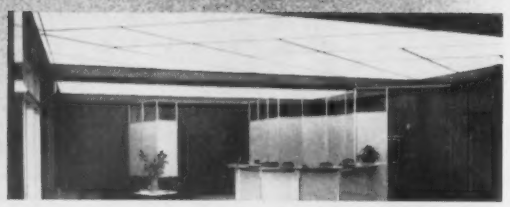

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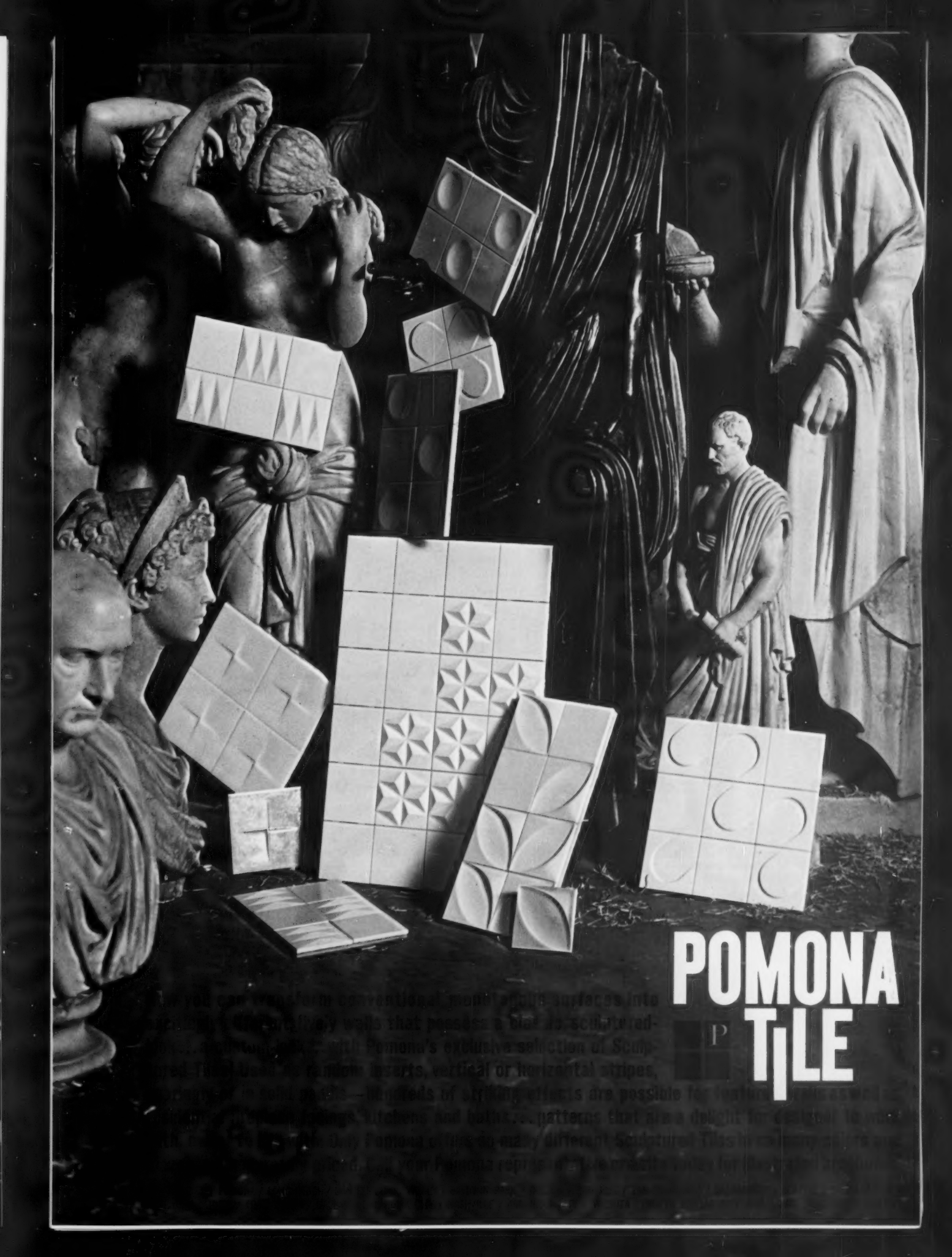
reviews

(Continued from page 226)

Lothar Franz von Schönborn even spoke of the extent of his addiction to building as his "Bauwurm." Frederick the Great of Prussia was determined to bring culture to his own country through largely French agencies, but he as much as the French and his court architect, von Knobelsdorff, was responsible for the design of the great palaces at Potsdam.

Though Baroque architecture was both the product and reflection of the Baroque Age, in retrospect it has a different and far greater importance. If architecture is the significant form of space, the Renaissance concerned itself particularly with Form: regularity, modulation, and clarity. Baroque expression sought to explore Space. Sometimes this was to create a deliberate impression, as it is done in a theatre: the breathtaking altar at Rohr and the St. John Nepomuk church in Munich by the Asam brothers, for example, where every element of the designs turn toward a single iconographic event. But Baroque architecture in its finest moments celebrates space itself, in what Powell sometimes describes as motion. This does not mean frozen action; but as in Baroque sculpture, the static sum of all the gestures the subject is capable of—the narthex of a church bellying out or curving in; a rippling, undulating cornice line; a palace stairway sweeping upward and forward into unfolding salons. This was the period that saw the birth of the *Gestalt* practice of art: the whole is greater than the sum of its parts. Johann Michael Fischer's great German churches are thus variations on the theme of an axial plan combined with a central plan, and the differences are resolved not in paradox or diffusion but in a unity more perfect than either idea alone. This was also the age of the highest expression of *Gesamtkunstwerk*, where painting, sculpture, and architecture were equally significant in the final design. In the Würzburg Residenz, neither the mighty staircase and volume of the *Kaisersaal* of Balthasar Neumann, nor the stunning frescoes of Tiepolo, take precedence; each contributes to the result; both together

(Continued on page 238)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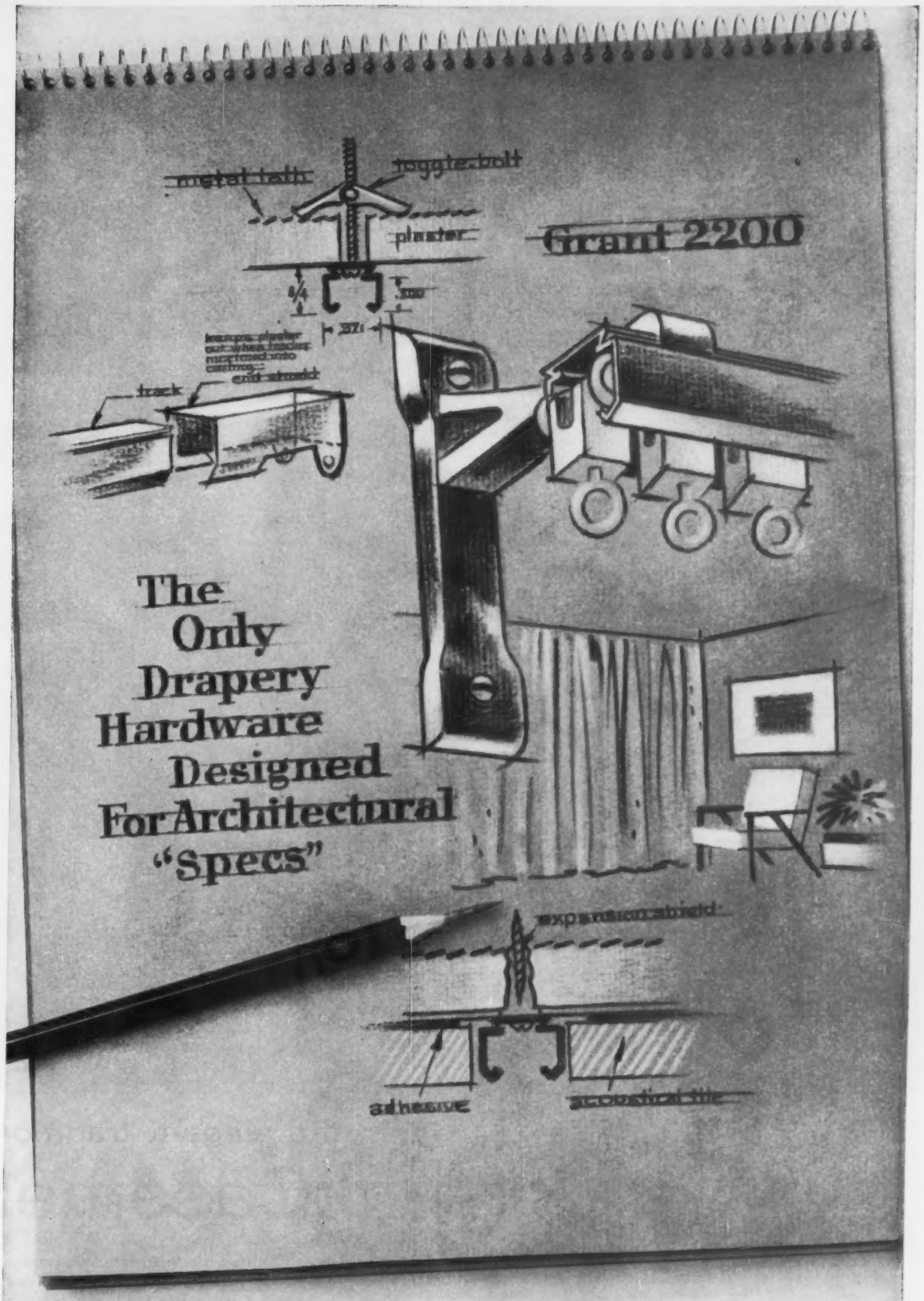

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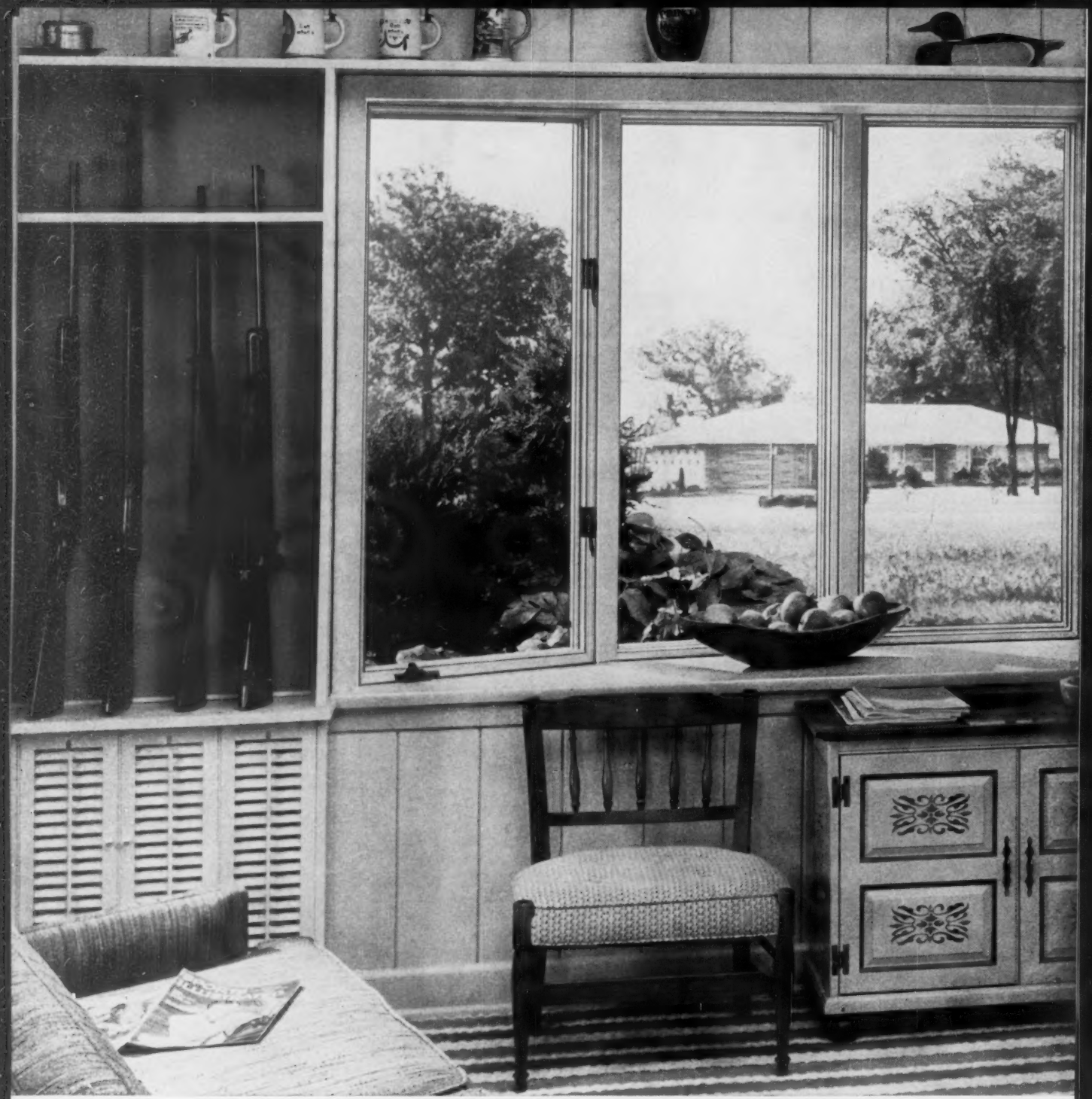

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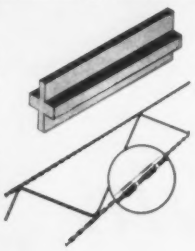

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reviews

(Continued from page 230)

make a coherent whole that is greater than their mathematical total.

The author has little to say about the most important thing: any achievements of Baroque architecture which were new discoveries and lasting ones, pertinent for all time. As space, architecture had to be concerned with things in relation to one another. In design as well as in physics relativity is taken to be a new idea, but the Baroque was its architecural beginning. A building seen from the outside standing alone is not actively involved in space, because the other arrowhead of the dimension line does not stop anywhere. It is like a chord in music without its resolution. There was nothing wrong with this in the classical ideal of the Renaissance, which was concerned with single-minded rational impressions. But in Baroque times, art needed relationships, implications, associations. A building was part of a square and was planned as such. Squares, houses, churches, palaces were all part of the city. Bamberg and Prague, two of the world's most beautiful cities, are so mainly because they developed during the Baroque Age in conscious design. Building façades lost the importance they had been given during the Renaissance in favor of interiors, where relationships of space spontaneously occurred. Many of the most outstanding Baroque churches and palaces in central Europe have poor or plain exteriors, because the talent and money was first expended on the inside, which was considered of primary importance. Baroque architecture must be considered the development of enclosures —building interiors, city squares.

The highest architectural achievements of the Baroque period were brought about not only through development of the Baroque "style" nor through the refocusing of design aims on the problem of space. Although Baroque architecture is usually concluded to have been the development of no technical innovations (as Gothic architecture grew through structural expression), in reality it profited from and exploited a new development of staggering importance. After centuries of building with stone,

(Continued on page 244)

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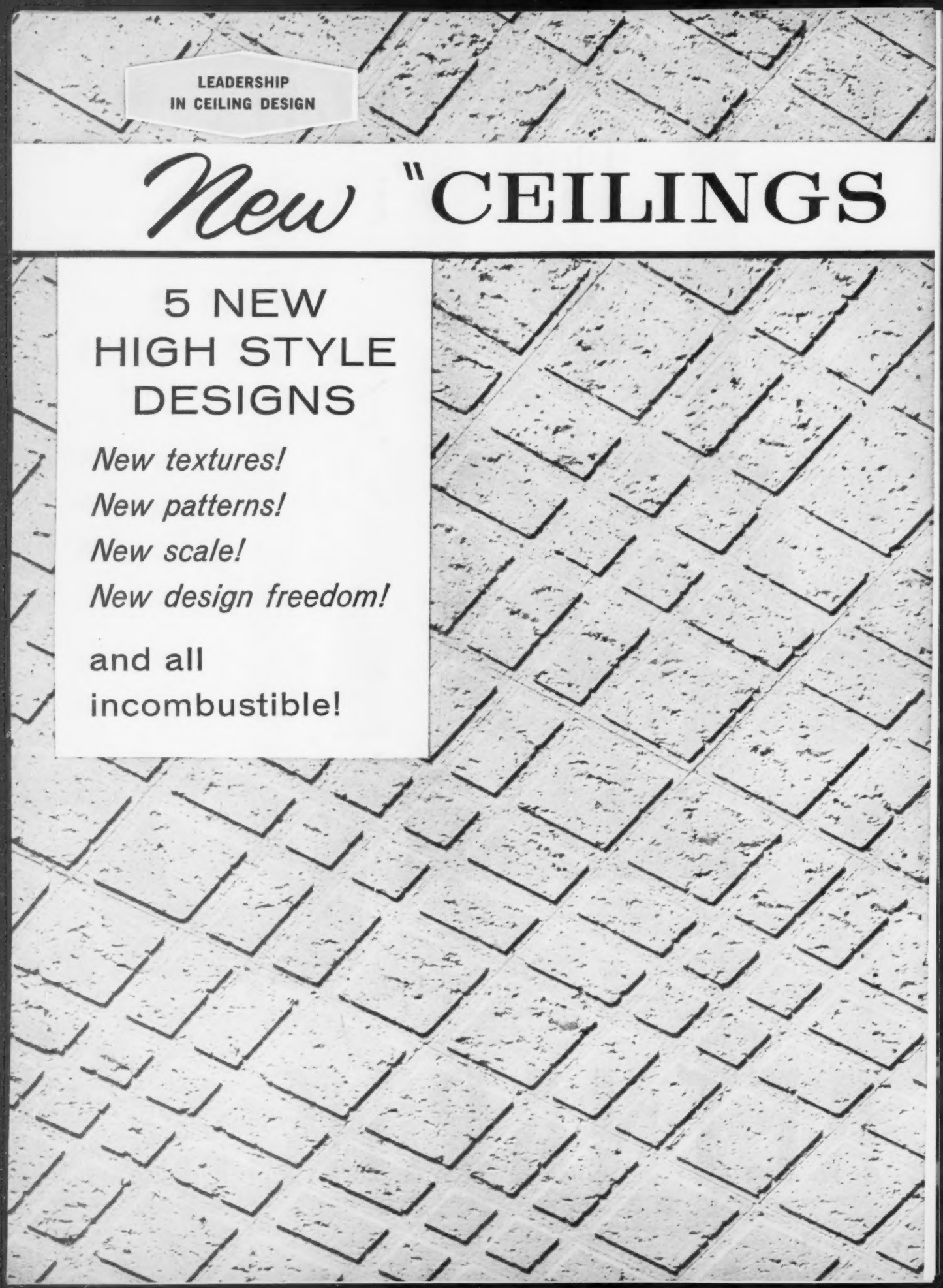
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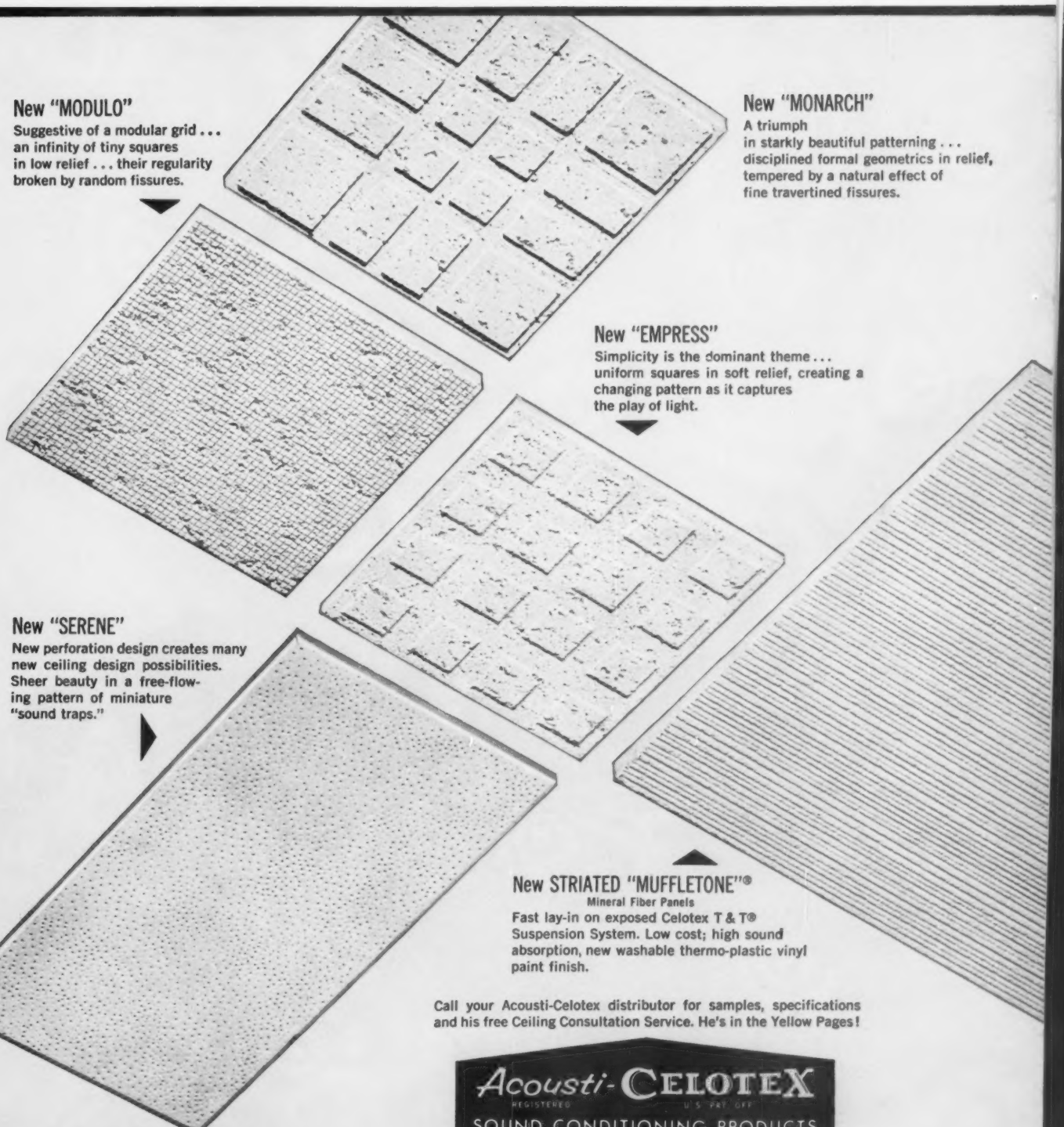

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reviews

(Continued from page 238)

timber and glass, the *technology of materials* remained static. However, the architects of the age had the benefit of classical scholarship to give them an accumulation of knowledge about these materials—and they no longer felt pledged to Vitruvian codification. In contrast, what can be called the *technology of design* had advanced enormously. Geometrical principles had evolved just at the moment which made it possible for the first time to draw complex parts. Drawing advanced from the plan-elevation stage to the point where vault developments, masonry intersections, true surfaces could be shown; and all the various advantages of being able to put a design on paper became manifest. The Piedmontese architect Guarino Guarini must take credit for this to a large degree. His *Architettura Civile*, which appeared in 1686 and with text in 1737, applied to architecture contemporary mathematical advances. His book was read widely in the north, and there is no doubt that the Balthasar Neumann who designed the churches of Vierzehnheiligen and Neresheim must have been guided by Guarini. The results of putting geometry into architectural practice were so far-reaching that they might be only compared to painting and the changes wrought by the discovery of the rules of perspective. It can almost be said that this age saw, with Descriptive Geometry, the birth of modern design.

Structural achievements also took place. Neumann, originally a military engineer (a bell and cannon founder), made for himself architectural problems which traditional construction could no longer solve. The ceiling of the Würzburg Residenz stairhall, for example, measures 105 x 60 feet of unsupported span. And of Vierzehnheiligen, Powell says that:

"The use of a reinforced concrete construction in the vaulting is a further indication of Neumann's genius, a method which might have been carried out at Neresheim, had his successors had courage." Neumann died in 1753, with Neresheim, his greatest achievement, only begun. Vierzehnheiligen was built between 1743 and 1772, or about a hundred years

(Continued on page 250)

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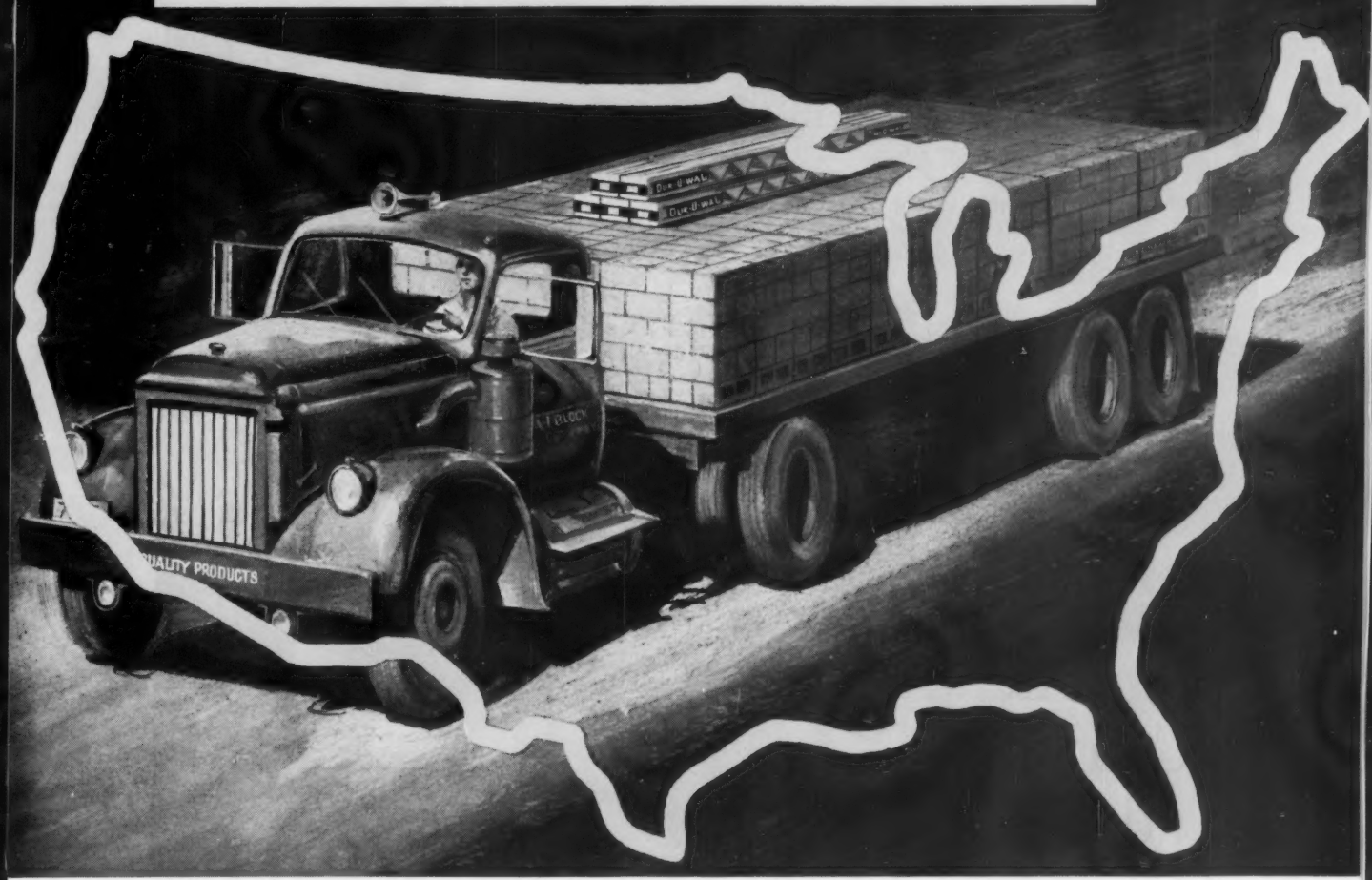

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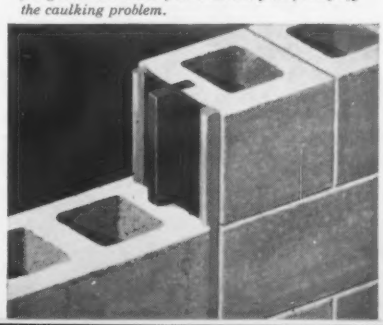

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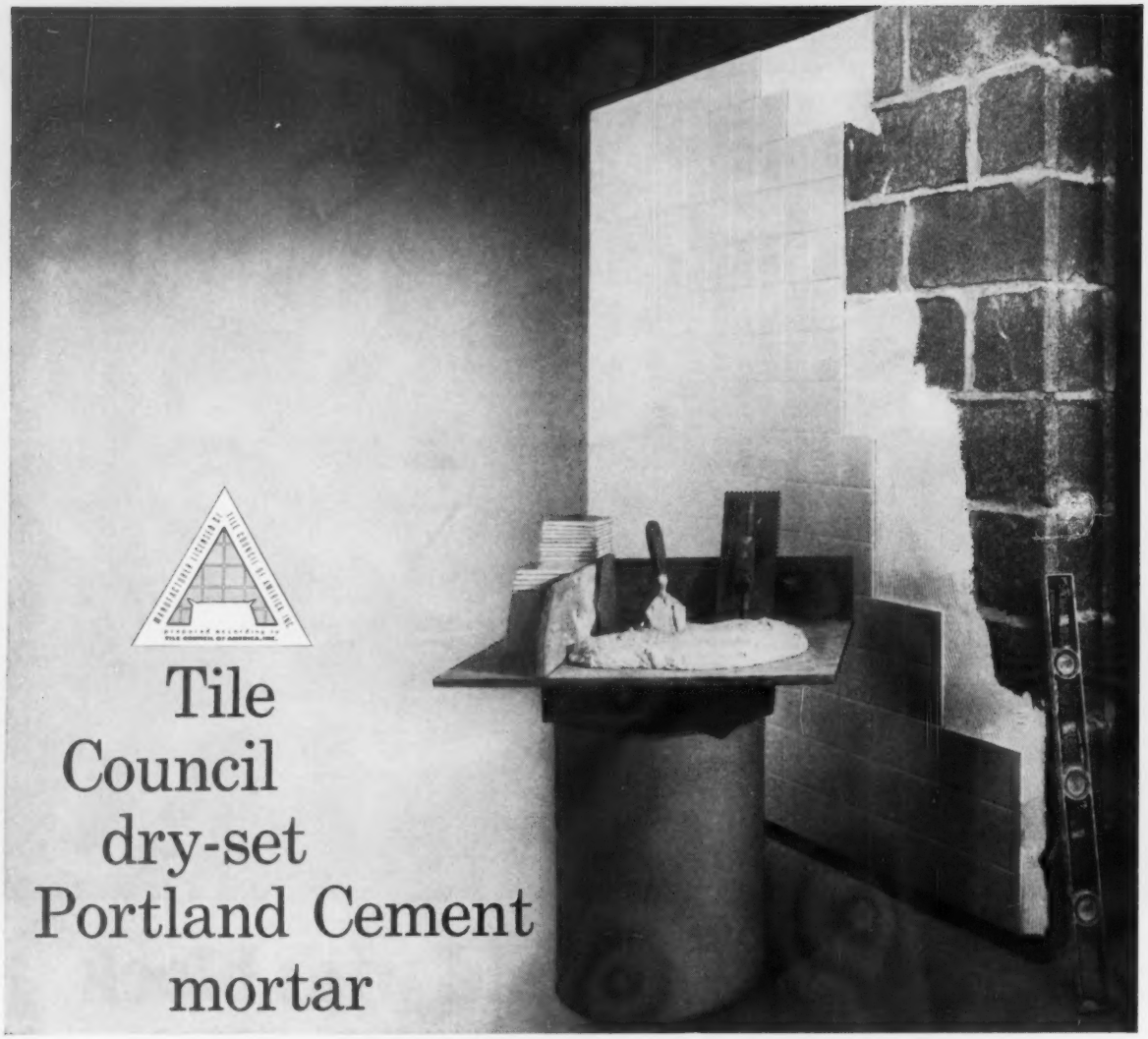

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Inquiries concerning the Steel Joist Institute should be sent to the Managing Director, Steel Joist Institute.

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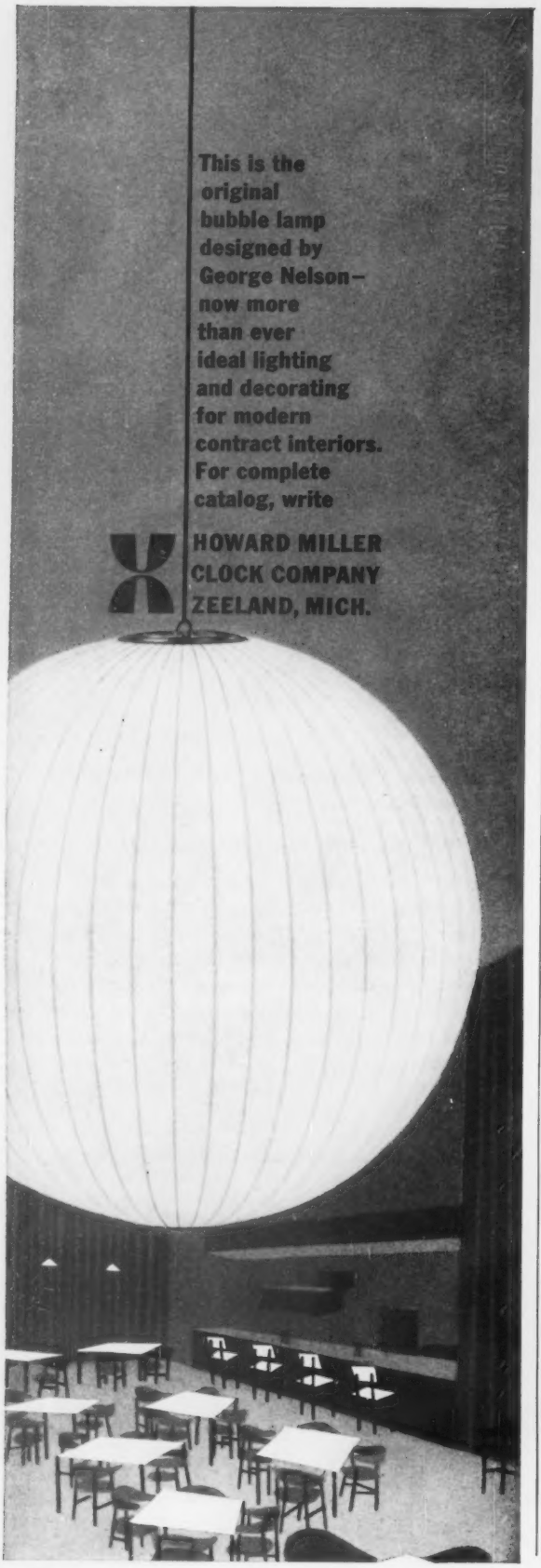
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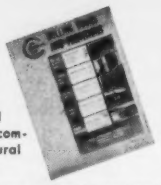

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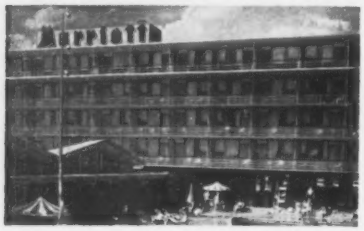

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reviews

(Continued from page 244)

before the first usually credited use of reinforced concrete.

From Baroque to Rococo traces the history and development of Baroque architecture in central Europe from its origins through to the beginning of Neo-Classicism, in terms of its architects, their buildings, and patrons. Powell devotes particular attention to architectural expression in religious buildings, and has special chapters on Patronage, Color, Sculpture and Decoration. Useful indexes, a bibliography, and a glossary are added. The author's best quality is an ability to capture and describe the cathartic event—the subtle beauty of Baroque masterpieces, and the esthetic impression received upon entering a great church nave or palace stairhall. The noted absence of any amount of information about the period makes this a very valuable book, often marked with shrewd opinions in evaluation of significant work and estimations of design quality; though a rather disorganized text, the necessity of preliminary information, and the lack of many well-drawn ground plans indicate that a definitive introduction to the subject must yet be written. There are 64 monochrome and 4 color plates, many of which might also be better.

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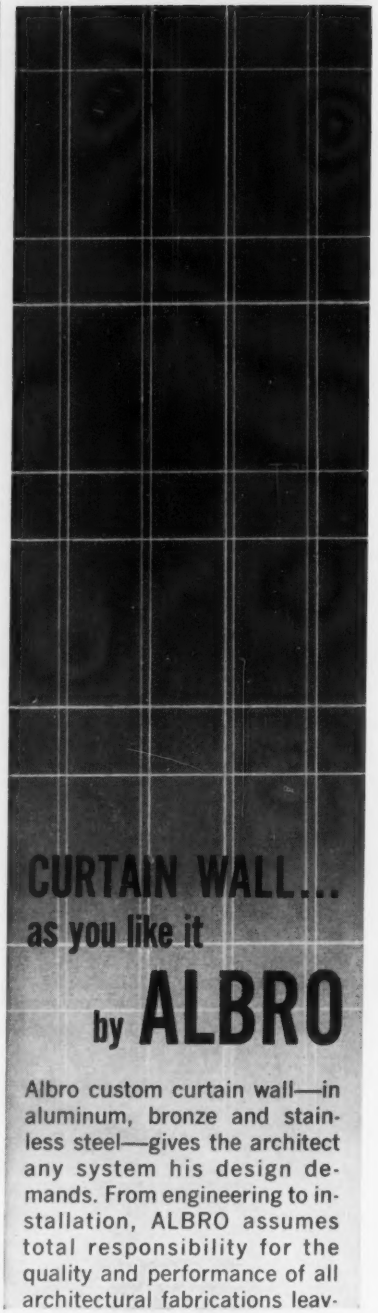
Van Gogh. *Frank Elgar. Translated by James Cleugh. Frederick A. Praeger Inc., 15 W. 47 St., New York, N. Y., 1958. 316 pp., illus. 65 full-color plates. $5.75*

Edouard Manet: Paintings and Drawings. *John Richardson, Phaidon Press, London, 1958. Distributed by Doubleday & Co., Inc., 575 Madison Ave., New York, N. Y., 132 pp., illus. 16 color plates. $3.95*

In thinking of titles for this review, I discarded, for length, "impassioned artist and rebellious stylist" and "lively biography or scholarly art history," although they are both appropriate.

Van Gogh, by Frank Elgar is a vivid biography of an impassioned artist, showing how completely related were the tempo of the life and art of the man—

(Continued on page 254)



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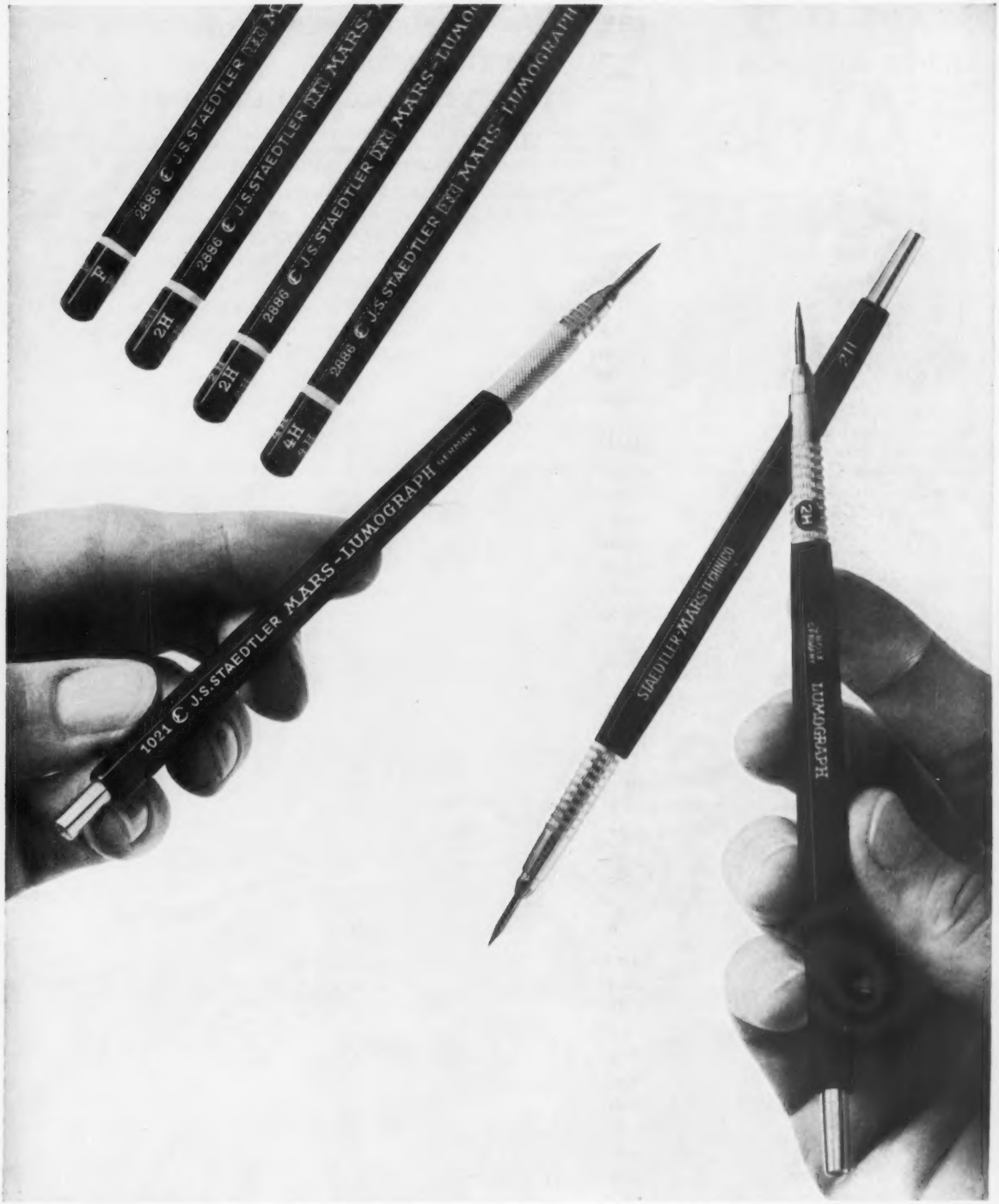

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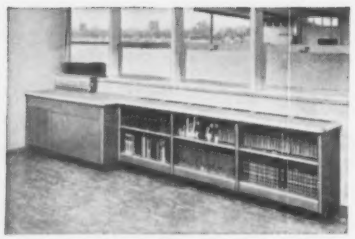

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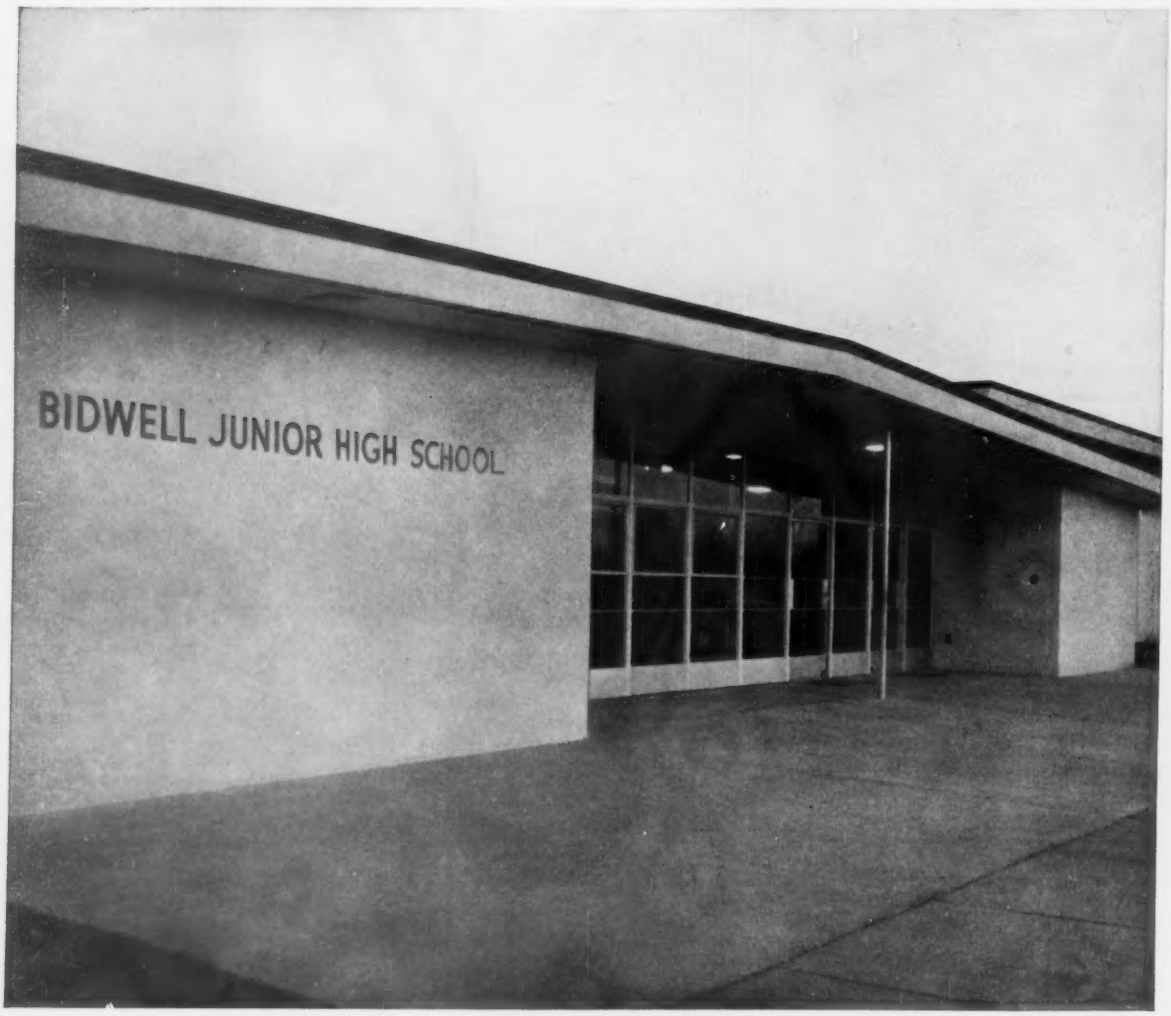

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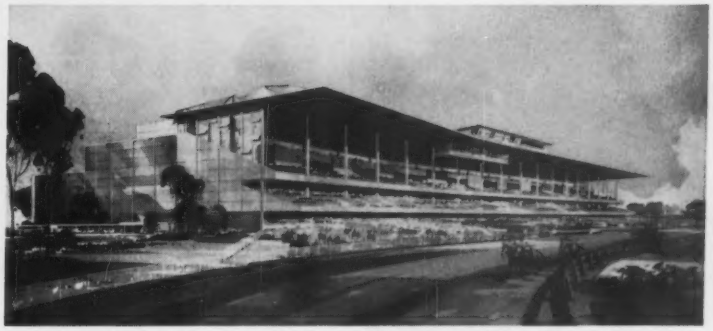

Exterior view of the new Aqueduct thoroughbred race track where Stone & Webster Engineering Corporation was responsible for engineering and management of construction and in which Matico Tile was used extensively for flooring of the grandstand and the clubhouse.

Project Managers: Stone & Webster Engineering Corp.
Architect: Arthur Froehlich & Associates
Gen. Contractor: Gaye Construction Co. (Clubhouse and Grandstand)
Flooring Contractor: Builders Wood Flooring

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33a/Mc

Sweet's

reviews

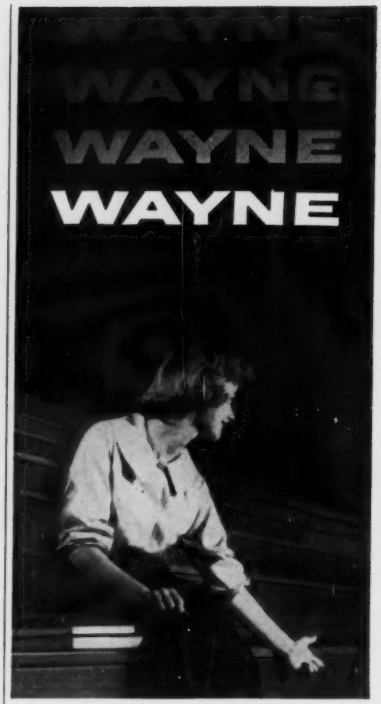
(Continued from page 250)

bold and violent. Although the biography is personal, it is not an attempt to show merely the sensational, as in the fictional *Lust for Life*. Instead, the reader is conscious of the continual and exhaustive artistic production of Van Gogh. Frequent use of quotations from Van Gogh's brilliantly descriptive letters to his brother Theo and others reveal the great insight he had into his many artistic and personal problems. The bibliography lists several published sources of Van Gogh's letters, useful for further pursuit of these masterpieces.

Edouard Manet, discussed by Richardson, is a scholarly study of Manet that stresses his role in the history of modern art. Perhaps as an intellectual, whose chief contribution was as a stylist, Manet's personal life is not essential to the analysis of his art. Richardson does not present it. The belief that Manet was the founder or leader of the Impressionists is dispelled; rather, it is shown how he and that group contributed to each other. His stylistic discoveries, rejection of an academic finish, use of pure color, and naturalistic view of life all influenced the Impressionists. From them he assumed a lighter palette, experimented with broken brush strokes, and used open-air subjects. But Richardson claims he never painted a true Impressionistic picture, for regarding light, the optical reaction to color, and the elimination of black, he was opposed to them. Impressionism, like *Hispagnolisme* and *Japonnerie*, was only one of many influences seen in his work.

The books differ not only in the authors' treatment of similar subject matter, but also in the format. *Van Gogh* is an illustrated story with running biographical text; on each page is a black-and-white or color illustration, usually filling a half or a full page. The 150 paintings and drawings (65 in color) roughly fit the chronology of the story, making it convenient to view them as they are discussed. At the end of the text is a catalog section of 31 pages showing 219 additional illustrations, followed by an index to these and to the previous illustrations in the book. Throughout the text there are references to the catalog prints.

(Continued on page 260)



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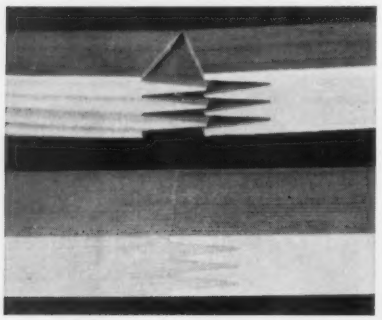

Close-up shows precision-machined, interlocking Nu-Loc end joint before and after bonding.

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Nu-Loc improves appearance by presenting a smooth, even surface with snug fitting joints. It takes and holds paint or varnish extremely well. Nu-Loc cuts labor costs by minimizing cutting, fitting, and handling time. It speeds construction by covering more area faster, and reduces waste because you order it in the lengths and widths you need. Made only of kiln-dried lumber, it has good dimensional stability, lays flat, resists cupping and warping.

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Nu-Loc is interchangeable with regular lumber in all non-structural uses. Nu-Loc is offered in American Lumber Standard and in West Coast Industry sizes. It is made in clear grades of Douglas Fir, Western Red Cedar, West Coast Hemlock, Ponderosa Pine, Idaho White Pine, Inland Red Cedar and Larch . . . and is also available in common grades of Idaho White Pine, Inland Red Cedar and Larch/Douglas Fir.

Nu-Loc exterior wall coverings—drop siding, vertical patterns, board and batten—are available in lengths to 22′, widths to 12″—bevel siding in lengths to 16′. *Nu-Loc casing and base*, and *Nu-Loc mouldings* are available in standard patterns, and in specified or random lengths. *Nu-Loc door jamb sets* are made in many sizes and patterns. Wide Nu-Loc Lumber can be ordered in lengths to 20′, widths to 28″. Nu-Loc Lumber is also ideal for window frames, cornices, rake trim, soffits, fascias, porch ceilings, signs, cabinet faces, shelving, drawer sides, drawer fronts, stair trim, valances, and bay window sills.

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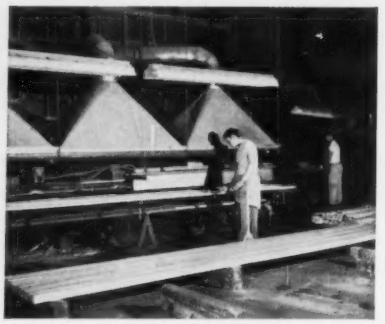
The combination of modern equipment, carefully trained operators, and strict quality controls assure consistent uniformity and durability. Nu-Loc is backed by over 20 years of research, testing, and development. It is produced in accordance with grading rules of the West Coast Lumber Inspection Bureau or Western Pine Association.



For wide widths, the end-glued pieces are grain matched and edge-glued together.

Summary

Advantages in wider widths: Gluing up of narrow pieces tends to stabilize wide widths by reducing cup and twist. Nu-Loc provides wider widths than available in regular lumber.

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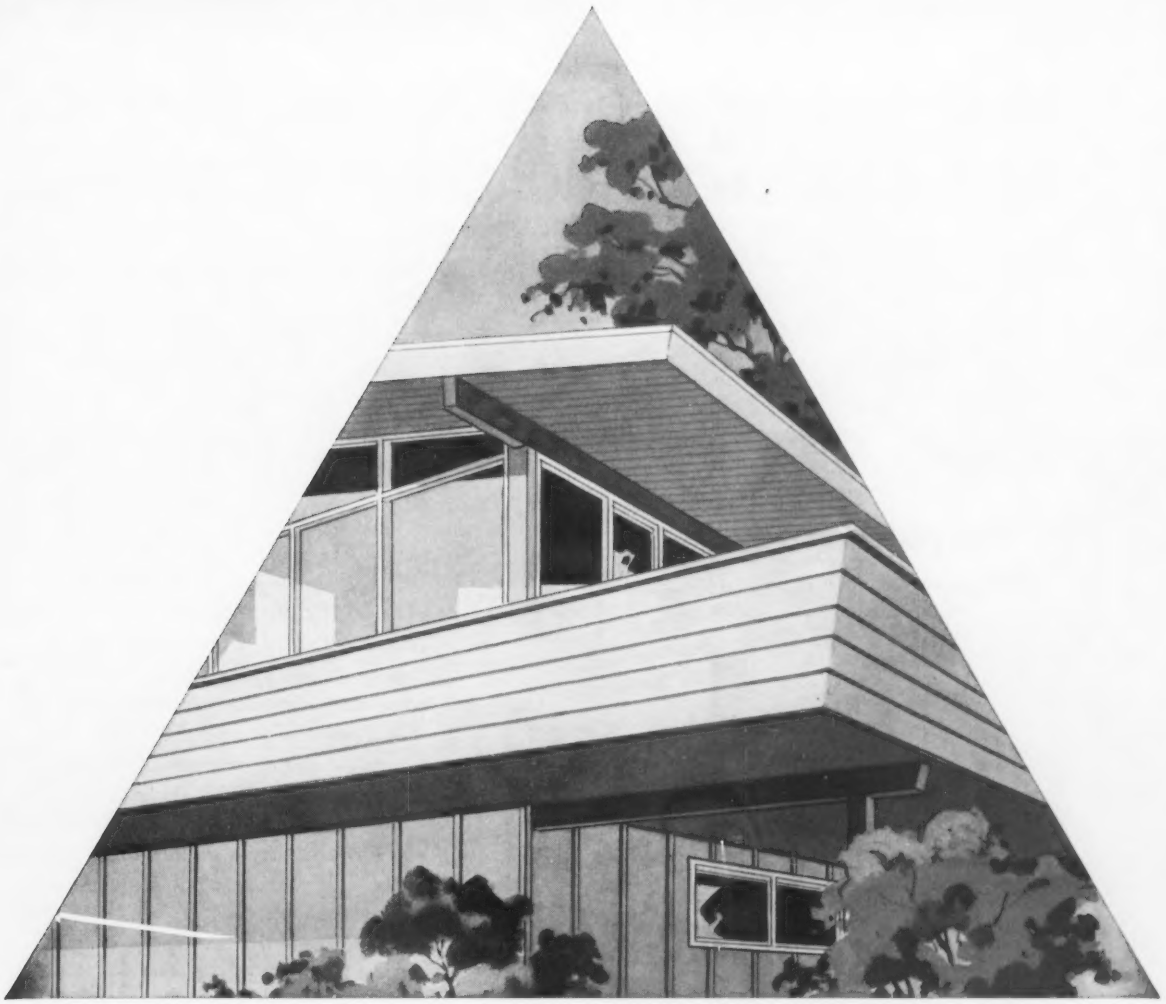
For additional information write: Weyerhaeuser Company, Lumber and Plywood Division, First National Bank Building, St. Paul 1, Minn.



You cut building cost—improve appearance—when you specify Weyerhaeuser NU-LOC

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NU-LOC is manufactured from kiln-dried clear lumber in 8 species, carefully sorted and matched for grain and color before gluing. Only exterior type glues are used, and it is interchangeable with regular lumber in all nonstructural uses. For detailed information, see the facing page or write: Weyerhaeuser Company, Lumber and Plywood Division, First National Bank Building, St. Paul 1, Minnesota.

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(Continued from page 254)

Manet is a book of plates with a 30-page introduction. The 84 plates are titled and dated, then followed in a third section with "Notes on the Plates."

It is difficult to select the more interesting book, and the choice may well lie in which artist's work is preferred. However, both books—representative of popularly-priced monographs — are undoubtedly bargains. Others in the series by Frederick A. Praeger are *Picasso* (with Frank Elgar and Robert Maillard as co-authors), *Klee*, and *Impressionism*. Other Phaidon Alpha books, similar to *Manet*, include *Dufy* and *Grunewald*.

ADELAIDE LEWIS
Greenwich, Conn.

down to reality?

The San Francisco Bay Area: A Metropolis in Perspective. *Mel Scott. University of California Press, Berkeley 4, Calif., 1959. 333 pp., illus. $12.50*

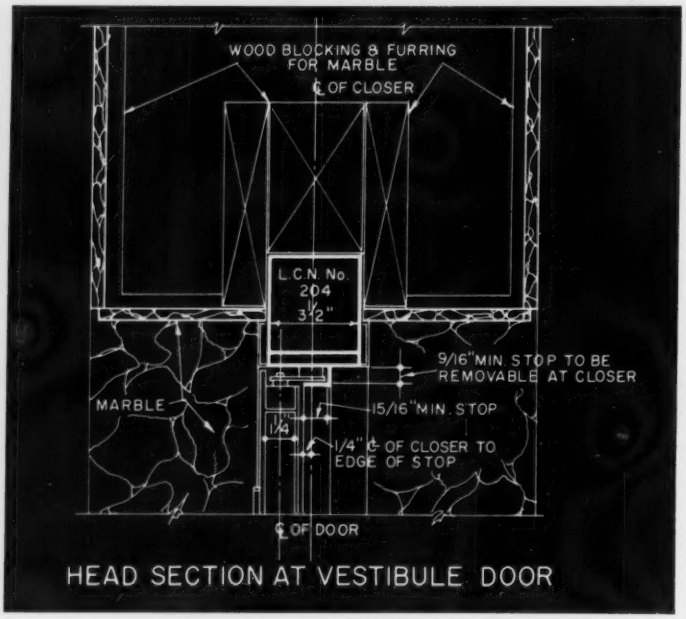
The present generation, after satiating itself on ideology, and in particular on vague and gangling generalities about cities and how to improve them, is beginning to settle down to reality: given a particular city, what are its problems and what can be done to solve them?

As soon as this question is asked about any city, however, the general lack of information becomes appallingly obvious. There is almost no usable and coherent source material explaining how or why a city has grown to its present form. We urgently need physical histories of individual cities, to provide the architect and planner with a feel for the city, with an understanding of all that is organic to its growth. This kind of historical information would lead designers toward solutions in sympathy with the site and the city, would avoid repetition of past errors, and at the same time would stimulate new thought based on old ideas. (Notice how rarely the ingenious solutions of thirty years ago are utilized today.)

While nowhere stated explicitly, Mel Scott's handsome book is just such a physical history, describing how and why the San Francisco Bay Region came to be what it is today. The book is well documented, reasonably broad in scope, and amply illustrated, although much of the graphic material is redundant and reminiscent of the grammar school "social science" textbook.

In one section or another, the book discusses most of the forces that determined the present pattern of the region. But a more proper task of this type of history would be to emphasize, for each point in time, the major trends actually at work, while pointing out the often obscure signs of the future. In this respect, the author fails to keep a clear head. At first, the book is a detailed history of the region's settlers; at the Gold Rush, the emphasis shifts to a discussion of real estate transactions; following the earthquake of 1906, the emphasis changes again, departing from the furious growth of the 20's and 30's to dwell on various ineffectual visionaries who dreamt of a golden era under regional government; toward the end, the author gives himself

(Continued on page 264)



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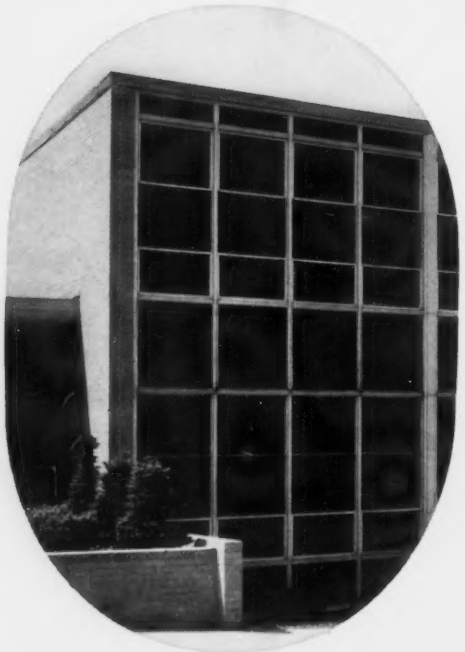
Construction Details on Opposite Page

Daggett, Naegele & Daggett, Inc., *Architects*

10



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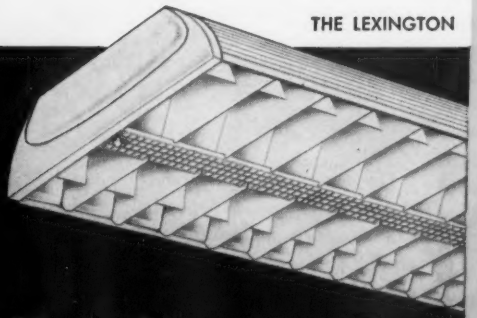

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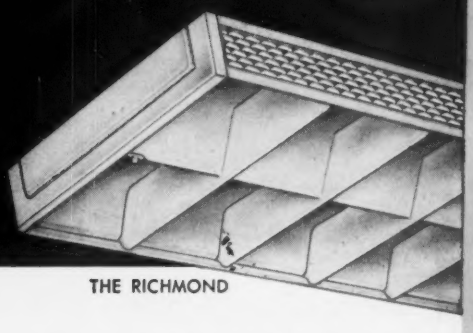

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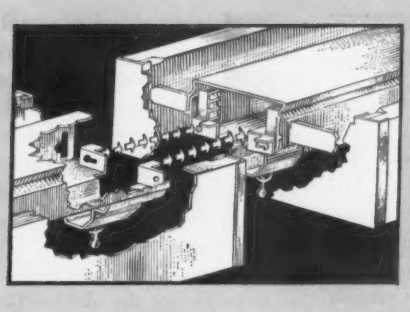

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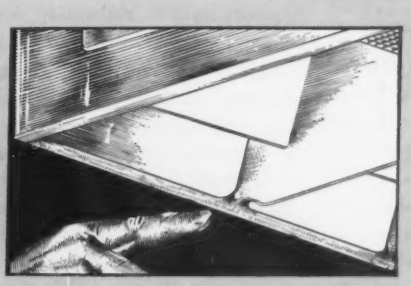

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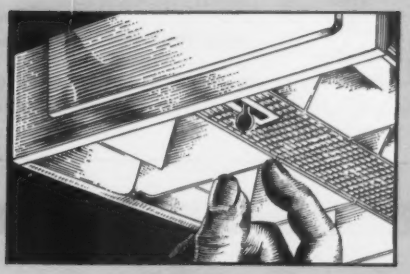

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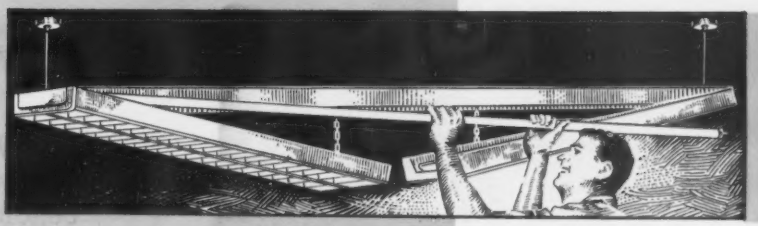

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(Continued from page 260)

over completely to an emotional argument for regional planning, regional government, and regional rapid transit.

Unfortunately, the writing is not brilliant enough to fire the hearts of skeptics like this reviewer, who would like to know more about the nasty problems of forming regional governments. Certainly, too, the writing is too pedestrian to open the notably well-laced purses of San Franciscans, who will be asked this year to support the beginnings of a billion-dollar transit system. There is too much discussion of planning to make this a good history of what was actually built, and not enough concentration to make it a good history of planning.

Perhaps a more serious fault of the book is its lack of attitude about the area; we are told that the author wrote the book while in Venice, and it shows. What ought properly to be an historian's attitude—detached, yet intensely involved and acutely observant—resembles instead the attitude of a visitor, who need not become involved because he is always ready to leave. As a result, the book does not exhibit a real understanding of the forces that built the region, but dwells instead on the fact of regionalism *per se*, a fact which (as presented here) is simply not concrete enough to constitute a working philosophy.

It appears then that the book's purpose is to emphasize the obvious (and often ignored) fact that the Bay Area is a single region and must deal with its problems as a unit rather than as an aggregation of conflicting elements. Although it falls short of its mark both as propaganda and as history, it cannot fail to fascinate anyone who is interested in the development—past and future—of the Bay Region.

GORDON F. TULLY
New York, N. Y.

simplified structural design

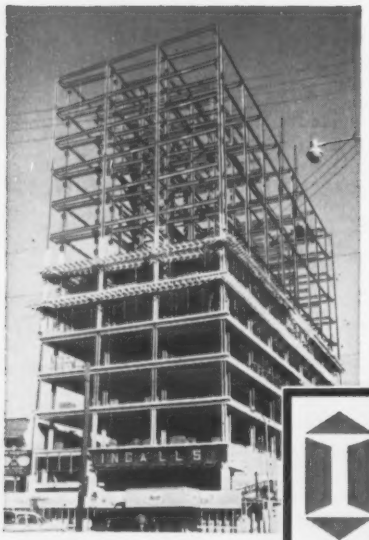
Frames and Arches: Condensed Solutions for Structural Analysis. *Valerian Leontovich. McGraw-Hill Book Company, Inc., 330 W. 42 St., New York 36, N. Y., 1959. 494 pp., illus. $20*

This is another excellent book in the *Engineering Societies Monograph Series*. In setting forth quick and simple solutions for twenty types of statically indeterminate frames and arches, it should be of great interest and value to the structural designer.

The general types (portal, trapezoidal, and gable frames, and parabolic arches and frames) are each analyzed for pinned or fixed supports and for members of constant or variable section. All of the principal forms of loading are studied. With this information, the designer should be able to handle all common types of single, symmetrical frames and arches. (The book does not, however, consider unsymmetrical bents, multispan frames, or tier frames.)

The author bases his solutions on the elastic-center method augmented by the concept of elastic parameters, and presents his results in the form of equations

atlanta banks on structural steel by...



A soaring population of over a million .... a soaring skyline of modern office buildings. That's Atlanta today. And typical of this dynamic trend is First National Bank's new branch office structure shown here. Over 1,300 tons of structural steel .... fabricated and

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for each redundant. Once the numerical value of the redundants is found for any given problem, all forces and moments for any section of the frame can be quickly obtained.

The book includes comprehensive tables and charts of Elastic Parameters and Load Constants. It contains sufficient text and illustrative problems to explain the use of formulas and tables thoroughly.

Except for a very sketchy index, the book is well arranged. It is set in clear type, and is bound so to match the other books in the *Monograph Series.*

DONALD G. RADWAY
New York, N. Y.

interim aid

Project on Design of Physics Buildings. *American Institute of Physics, 335 E. 45 St., New York 17, N.Y., 1959. 182 pp., illus. $2*

In January of this year the American Association of Physics Teachers and the American Institute of Physics set up the Project on Design of Physics Buildings, a nationwide study to determine what constitutes good design for physics building facilities.

This interim report contains selected reprints of articles on physics buildings; it is expected that the final report will be issued in the Summer of 1960.

MARGARET SQUIRE

domestic distinction

The Second Treasury of Contemporary Houses. *Selected by the Editors of* Architectural Record. *F. W. Dodge Corp., 119 W. 40 St., New York 18, N. Y., 1959. 216 pp., illus. $7.75*

From the best of those already cited as *Record Houses,* the *Record* editors have collected 44 contemporary houses, notable for the success with which they meet the needs and reflect the style of living in mid-century America.

In an introductory essay that does not spare our idiosyncrasies and inconsistencies, Russell Lynes shows some of the changes that have been evolving in our attitudes towards homes.

The houses selected for this volume are in all parts of the country and include recent work by many outstanding architects. As a group, the houses are a varied lot: inexpensive and luxurious, compact and sprawling. But (in the eyes of the editors) they are all distinguished by the practical, yet individual, touch that has been getting increased attention in the better American domestic architecture.

E.P.

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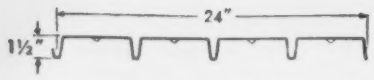
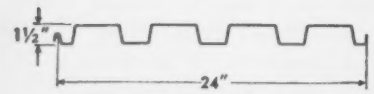
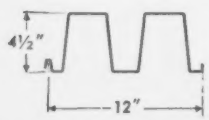


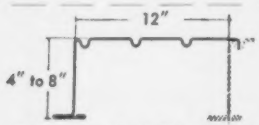
A-DECK — For purlin spacings not exceeding 8'4". Narrow ribs provide deck surface that supports the thinnest or softest types of insulation.



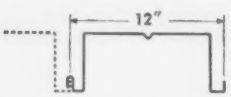
B-DECK — For spans to 10'0". Wide rib distributes metal for greater structural efficiency — gives higher section properties per pound of steel. Well suited for use as side wall panels.



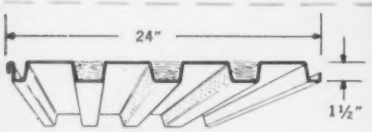
C-DECK—Carries normal roof loads over spans up to 24'0". Used extensively in canopies.



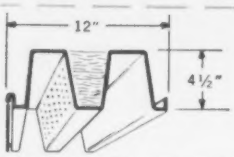
T-STEEL — New! Galvanized only. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to resist seismic and wind loads.



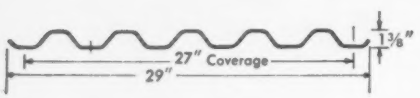
H-DECK — New! For simple spans to 20'0" — 3" and 4½" depths. Especially practical to cover walkways in shopping centers, schools, other installations.



B-ACOUSTIDECK — Two-in-one panel combines steel roof deck with acoustical ceiling having Noise-Reduction Coefficient of .70. Used for spans to 10'0".



C-ACOUSTIDECK — Offers same Noise-Reduction Coefficient as B-Acoustideck. Can be used for spans to 24'0".



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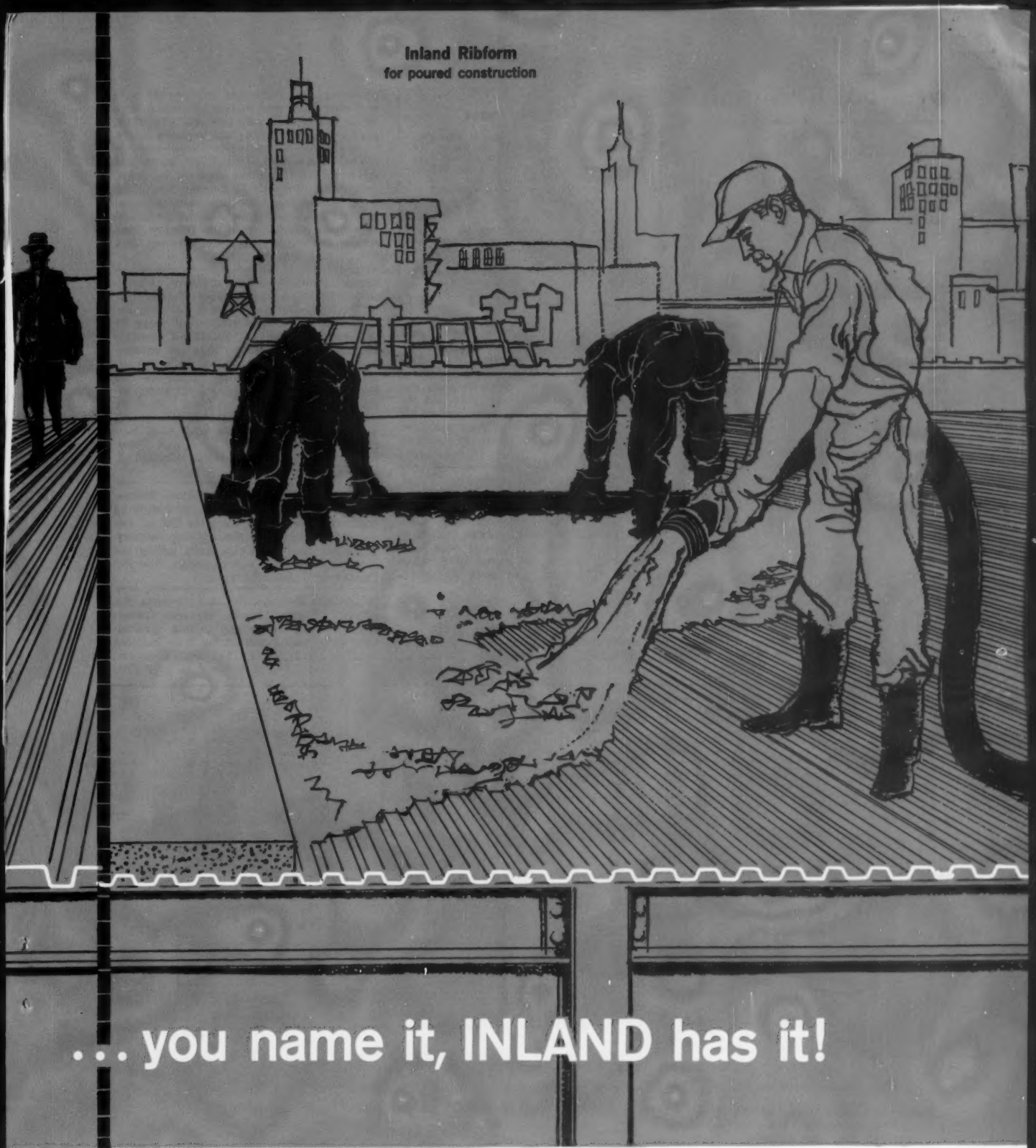

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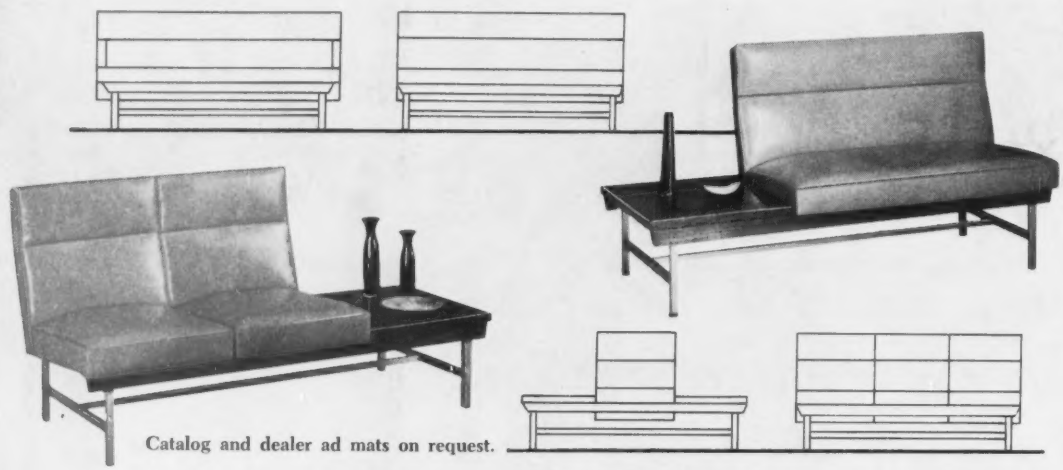

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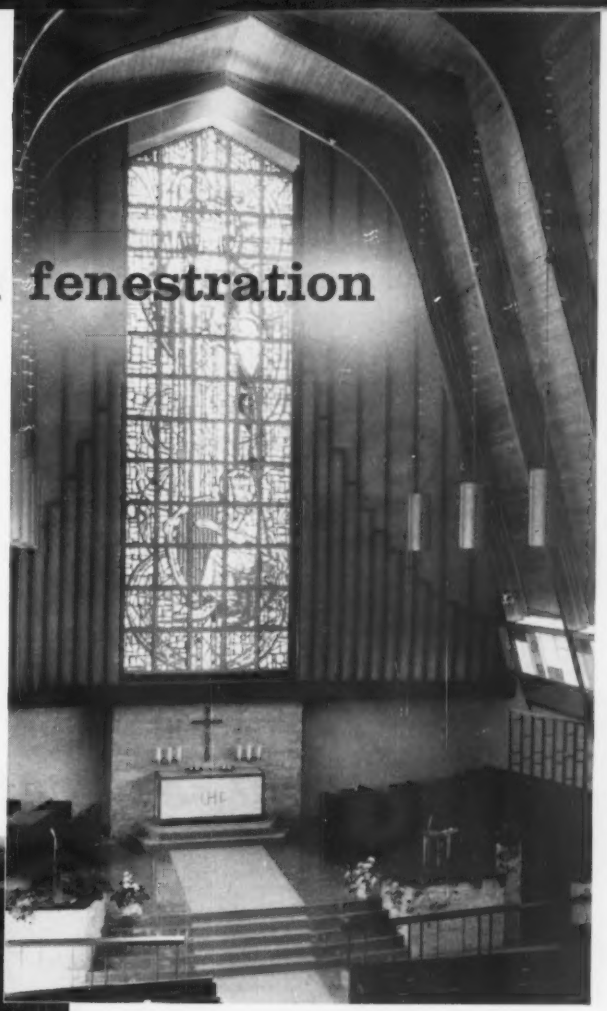

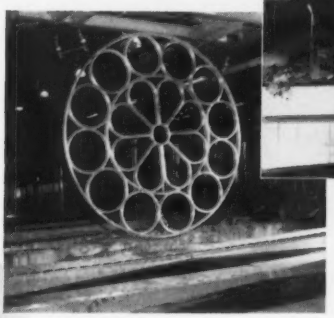

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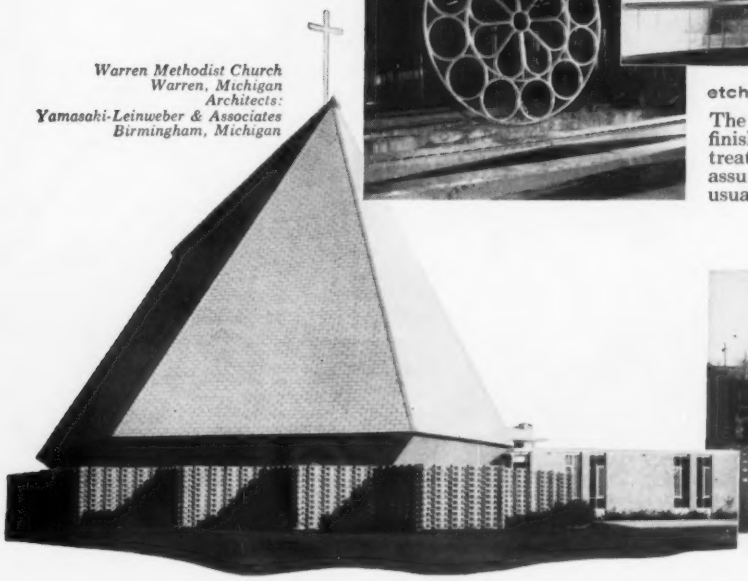
Architects:
Yamasaki-Leinweber & Associates
Birmingham, Michigan



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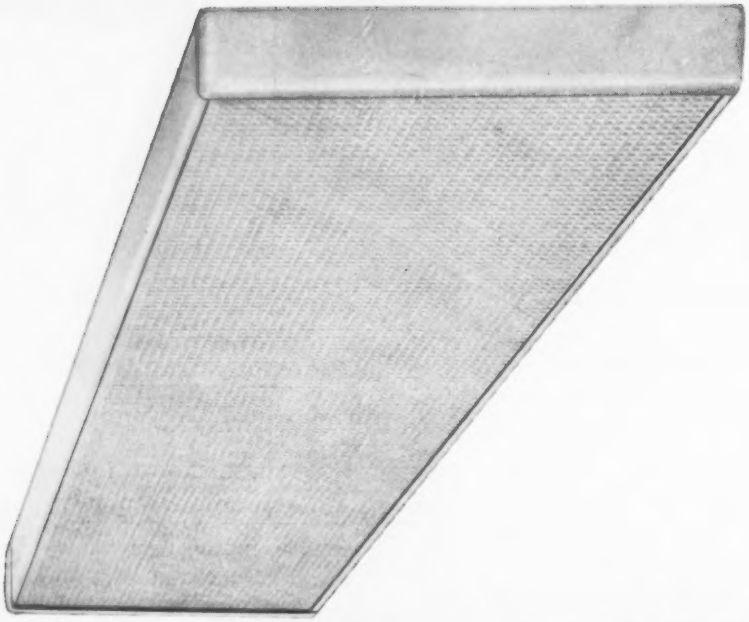

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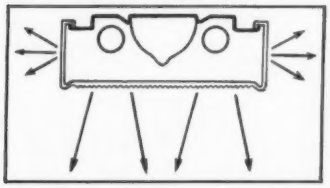

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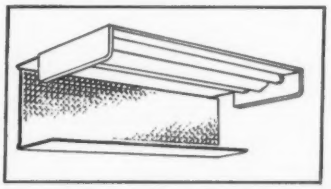

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HAWAII
Honolulu:
Hawaiian Light & Sup. Co.

p/a jobs and men

(Continued from page 268)

registration or eligibility, degree, and six years administrative experience including responsibility for directing major projects. Write Karel Yasko, Chief, State Office Building, Madison, Wisconsin.

WRITER—(Male or female) to relocate with architectural marketing company to write publicity and advertising copy. Location: Central U. S. Some travel involved. National accounts. State age, experience and salary requirement. Box 927 PROGRESSIVE ARCHITECTURE.

situations wanted

ARCHITECT—Age 31, family. M. Arch. degree, eight years experience including design, working drawings, supervision and teaching; desires responsible position with small or medium size firm. Will furnish complete resume on request. Box 913 PROGRESSIVE ARCHITECTURE.

ARCHITECT—B. Arch., outstanding academic record, 34, married, registered three states and NCARB, 10 years experience including 5 years independent practice desires teaching position in Architectural School. Well rounded with strength in construction, administration, structural subjects. Welcome opportunity to send resume to school indicating position available. Box 912 PROGRESSIVE ARCHITECTURE.

ARCHITECT—43, AIA-NCARB. Married with young family of three. Twelve years present position of work with clients in preparation of preliminaries and outline specifications, coordination and supervision of working drawings, writing of specifications, supervision of bidding, and awarding contracts in office specializing in hospitals and schools. Interested in similar position of responsibility in southern climate, preferably Florida. Box 916 PROGRESSIVE ARCHITECTURE.

ARCHITECT — Registered. N.C.A.R.B. 14 years diversified experience. Also experience in research, materials teaching, editorial; excellent contact person. Plans travel in Poland, speaks Polish, will contact architects building and educational groups. Seeks to become representative of manufacturer or organization to promote their ideas, products, establish contacts do research. Box 915 PROGRESSIVE ARCHITECTURE.

ARCHITECT—32, registered in California and Denmark, 10 years of broad general experience, presently associated with West Coast firm, seeks responsible position with opportunities for future advancements. Box 914 PROGRESSIVE ARCHITECTURE.

ARCHITECT AND CIVIL ENGINEER—Latinamerican. Fluent Spanish, English, Italian. Twenty years experience own offices and Europe. Contemporary architecture (housing projects, commercial, industrial, public, etc.). As Civil Engineer, specialize concrete structures for buildings. Available for work with architects, engineering, construction firms. States or Latinamerican country preferably Puerto Rico. Box 917 PROGRESSIVE ARCHITECTURE.

ARCHITECT-ENGINEER—Registered and member of Architects Association in Europe, over 20 years of professional experiences, design, detail, layouts, perspective, also construction superintendent and estimation for all trades of commercial, public buildings and industrial plants. Married, 3 years in Canada, presently employed desires responsible position. Box 918 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER—Graduate, 30, desires opportunity to do good contemporary design. Experience in church, school, apartment house, shopping centre, factory, etc. design. First sketches to working drawings, perspectives, Saskatchewan, Alberta and Manitoba preferred, but will consider other places in Canada. Box 919 PROGRESSIVE ARCHITECTURE.

INDUSTRIAL—Registered architect, M. Arch., industrial background in education and experience. Desires responsible position with progressive industrial, consulting, or architectural firm. Family. Will relocate. Box 924 PROGRESSIVE ARCHITECTURE.

INTERIOR DESIGNER—Man with soundly cultivated background in fine modern commercial and business interiors looks for a top level position. Broadly qualified in presentation, design, planning, detailing, contracting, administration and client relations. Registered Architect, presentable, employed, New York. Box 923 PROGRESSIVE ARCHITECTURE.

NOT BIG MONEY—But public credit for creative accomplishments desired by Archi-

(Continued on page 276)

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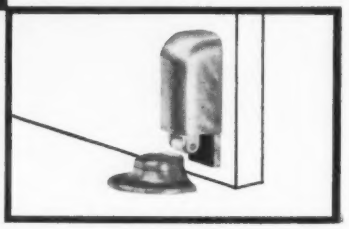
Arthur V. Geringer, A. H. C.

SG-3920 SERIES DOOR HOLDERS were selected for their fully adjustable holding power, smoothness of operation and design to facilitate hospital cleanliness.

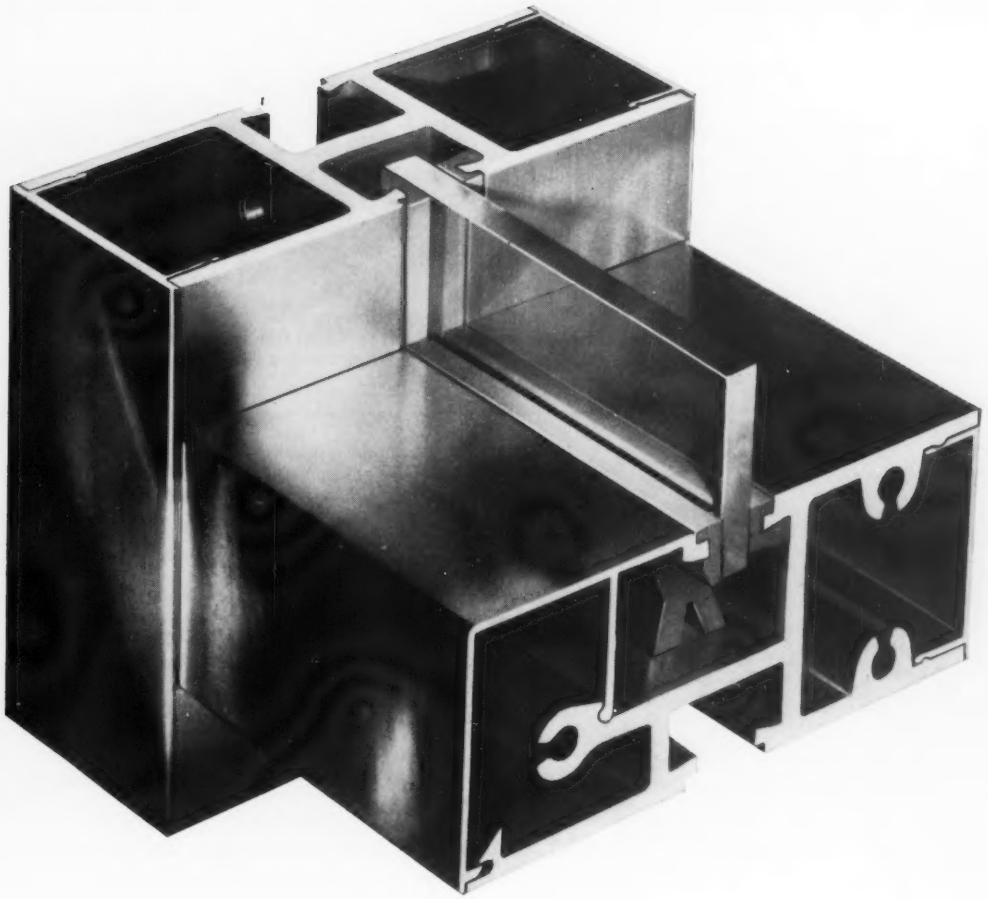
The clean contours of the case with its concealed attaching screws are pleasing in appearance, and discourage dirt collection. The smoothly rounded strike permits power scrubbing and polishing machines to ride over and around it, virtually eliminating unclean and unsanitary areas.

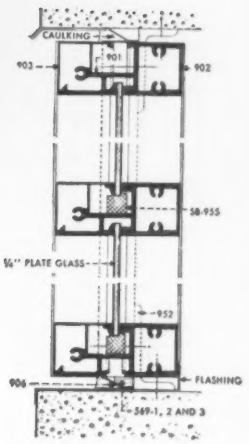
The nylon holding pawl quietly engages the strike, showing consideration to sensitive patients.

Thoughtful selection of superior hardware always compliments superior buildings.



SARGENT & GREENLEAF, INC. • ROCHESTER 21, NEW YORK





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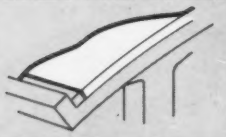
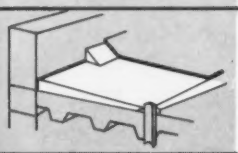
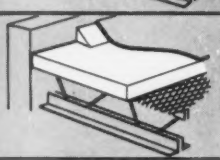
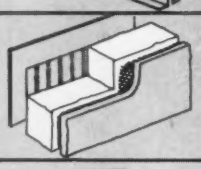
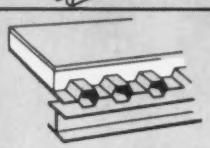
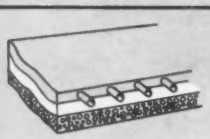
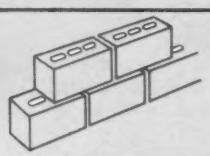
NEW USES FOR

APPLICATION		ADVANTAGES
① THIN SHELL ROOF STRUCTURES Fill over Hyperbolic paraboloids, folded plate, etc.		Permalite-aggregate concrete insulation is easily placed on curved and/or sloped surfaces. On many roof shapes, this is only type of insulating material which can be applied.
② ROOF INSULATION Drainage Fill over Structural Concrete		Cuts labor costs, since structural deck does not need finished surface. Permalite concrete can be sloped to drain in same operation which provides insulation. No additional insulation needed.
③ LIGHTWEIGHT ROOF DECKS Fill over Corrugated Steel Deck		Poured monolithically over galvanized corrugated steel sheet welded to structural supports. Low in cost, very strong, suited to wide spans or where high load carrying capacity is required. No additional insulation needed.
Roof Deck over Formboards		Permalite insulating concrete offers weight savings up to 4 lbs/ft² over other poured-in-place decks of comparable insulating value.
Roof Deck over Metal Lath or Wire Mesh		Low in cost. Combines permanence, light structural strength and insulation. Recommended where joist or sub-purlin spacing does not exceed 36".
④ CURTAIN WALLS Sprayed-in-Place Backup Walls		Easily applied with standard machines. Permalite concrete sprayed in place has compressive strength of 1000 to 2000 psi—ample to withstand windload. High heat capacity. Fire retardance—up to 4-hour fire ratings. Thermal insulation without vapor condensation problem.
⑤ FLOOR FILL		Permalite concrete fill over cellular steel or other structural floors permits substantial reduction in dead load. Terrazo or ceramic tile may be installed directly over Permalite fill. Blends of Permalite and other aggregates provide stronger fills for use under asphalt tile or similar surfaces.
⑥ SLAB ON GRADE		Sub-slab of Permalite insulating concrete under radiant heating systems in slab on grade can reduce heat loss by 25 percent.
⑦ CONCRETE BLOCK INSULATION Loose Fill		Permalite expanded perlite, poured as loose fill in the core spaces of lightweight concrete block, increases thermal insulation by 50 percent.

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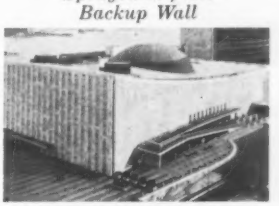
Insulation. Provides up to 20 times the insulation of ordinary concrete. Two inches of Permalite concrete offers more insulation than 1" of most insulating boards. Insulate roof deck and slope to drain in same operation.

Light Weight. Weighs from 22 to 36 lbs/ft^3, with compressive strengths of 95 to 440 psi. Permalite-sand blends, or machine-applied Permalite concrete, have strengths of 1,000 psi or more.

Cost Savings. Combine roof deck and insulation in one easy-to-place slab. Lower deadload permits lighter beams and joists. Incombustible deck offers insurance savings.

Other Features. Fire-safe. Can't rot or decay. Termite-and-vermin proof. Not damaged by water. Easily placed on flat, curved or pitched surfaces. Can be job-mixed, transit-mixed or precast. Can be worked with ordinary carpenter tools.

BANK OF THE SOUTHWEST BUILDING, Houston, Texas
Sprayed-in-place Backup Wall



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Roof Insulation on Long Span Self-Bracing Trusses

HOW LIGHT IS "LIGHTWEIGHT" CONCRETE?

Weight Class	Aggregate	lbs/ft^3	"k" factor
Light	Permalite	22–36	0.51 to 0.77
Medium	Expanded slag, shale or clay	60–120	1.7 to 5.2
Heavy	Sand and gravel	140–150	9.0

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p/a jobs and men

(Continued from page 272)

tect. Registrations: California (examination), Florida, District Columbia, Pennsylvania. American Citizen. European degrees: Architecture, City Planning, Art Direction. American experience since 1948: design, production, coordination large projects: institutional, educational, commercial, religious, residential; modern, traditional. Available after April. Box 920 PROGRESSIVE ARCHITECTURE.

REGISTERED ARCHITECT—Written examination. Age 35, Bach. of Arch. Degree, 10 years experience in leading architects' offices. Desires permanent association or partnership in modern office. Willing to invest in partial or major firm interest and will consider location anywhere in U.S. Resume and photo on request. Box 921 PROGRESSIVE ARCHITECTURE.

REGISTERED ENGINEER—B.S. in C.E. Member A.S.C.E. Family man age 33. Ten years varied experience in drafting, complete building design, engineering, construction, and administration. Presently employed in administrative engineering position. Desires change. Seeks opportunity with architect or small architectural firm. Familiar with architectural practice. Southeast preferred. Box 922 PROGRESSIVE ARCHITECTURE.

SENIOR STRUCTURAL ENGINEER—With thorough supervisory experience with leading engineering and construction firms. Large industrials, power plants, waterfront structures, dams, airfields, bridges, etc. Excellent estimator and spec writer. Sound client contact and negotiating experience. Desire position with architectural, consulting or industrial firm. Box 925 PROGRESSIVE ARCHITECTURE.

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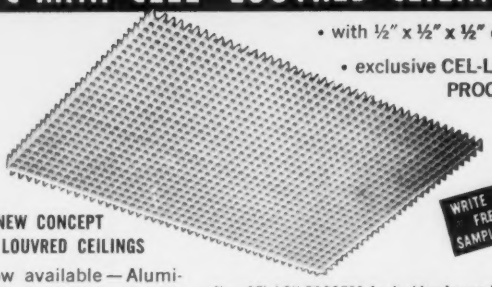

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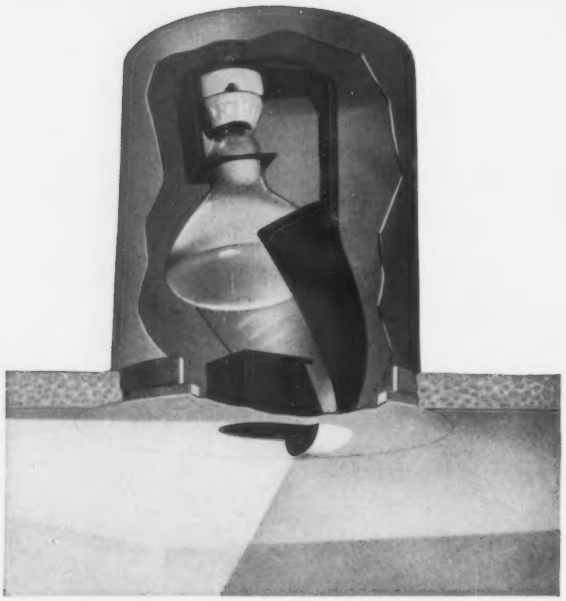

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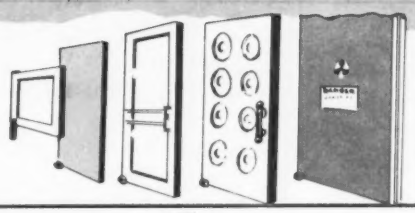
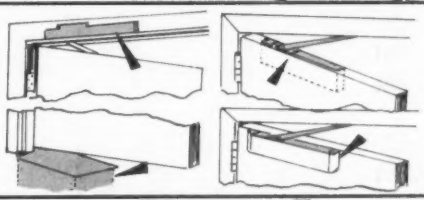


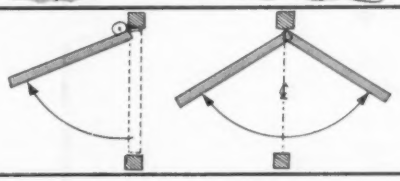
styles for doors, 12 lbs. to 1200 lbs. — light office rail gates to extra heavy lead-lined doors.

CLOSER MOUNTING requirements



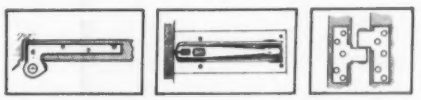
styles for mounting in the floor, in the jamb, in the door, on the door.

DOOR ACTION requirements



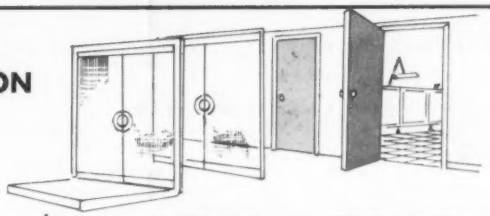
styles for single acting and double acting—both light and heavy doors.

DOOR HANGING preference



styles for offset hung doors, center hung doors and butt hung doors.

DOOR LOCATION requirements



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Arrow-Hart & Hegeman Electric Co. ... 92

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California Redwood Assn. 242, 243
Carter-Waters Corp. 238
Celotex Corp. 240, 241
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Challenger Lock Co. 209
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Dow Chemical Co. 116, 117
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Federal Seaboard Terra Cotta Corp. 34
Fenestra, Inc. 26, 27
Flexicore Co., Inc. 97
Flintkote Company, The Insulrock Building Slabs Div. 213
Flynn, Michael, Mfg. Co., ...196, 197
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Hamilton Mfg. Co. 212
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Mahon, R. C., Co. 218
Maple Flooring Mfrs. Assn. 223
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Master Builders Co. 204, 205
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Tectum Corp. 55
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United States Ceramic Tile Co. 73
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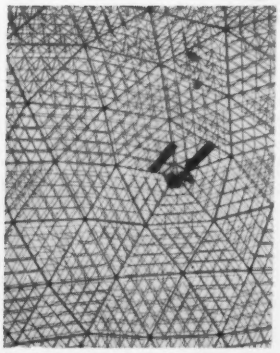
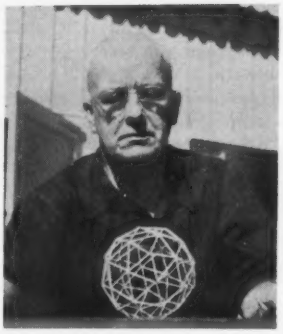
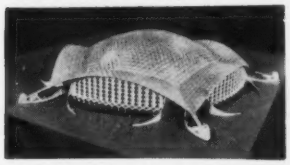


The bridge to this world of patterned abundance is what Fuller calls "Comprehensive Design." The book reviews this kind of design and what it means in terms of human advantage.

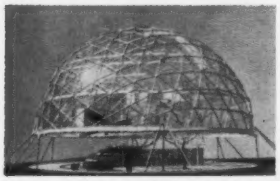


The book interprets the man responsible for the dymaxion world: his philosophy, background, and significance.

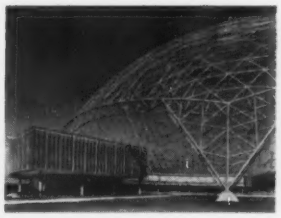


Thoroughly depicts the most famous of Fuller's creations, the dome. Includes those used by concert halls, sports palaces, industry, agriculture, banks, societies, to name just a few.

Includes all building types—their uses, design, materials, methods of construction, etc.



Presents Fuller's prophecies—transparent domes that cover entire cities for climate control; submarine islands; temporary, disposable dwellings.



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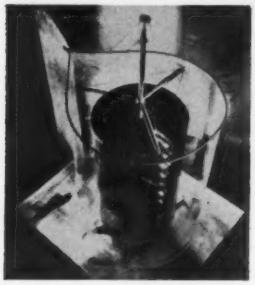

Explains the Fuller vocabulary with pictorial examples: energetic-synergetic, tensegrity, geodesic, dymaxion, dwelling machine, octet truss, and 4D.

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the art galleries

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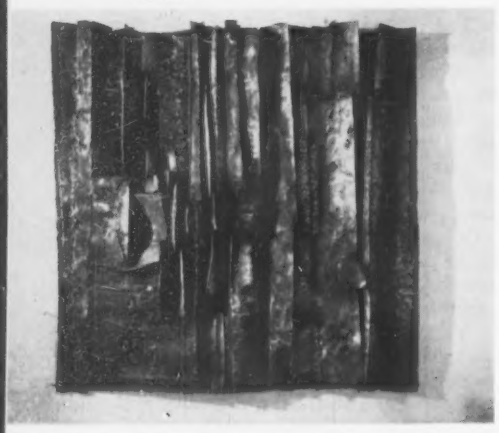
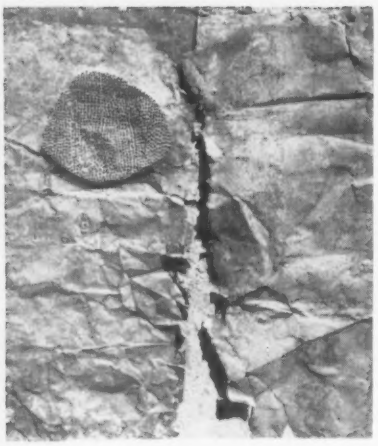
Rosenthal



Goeritz



Goeritz

This is the time of year when the art galleries and the museums are most active, introducing new talent and showing the most recent work of the better known painters and sculptors. Much of this activity centers in New York and, as one who is interested in the arts as arts and especially in the arts as they affect and relate to architecture, I have been kept busy on recent late afternoons and weekends covering as many of the "openings" as possible.

The openings are really dreadful affairs, and one goes only to see the artist and congratulate him (if he doesn't deserve praise for his work, he does deserve commendation for the travail involved in scheduling, arranging, and submitting himself to the criticism involved in exhibition). Actually, however, the nature of these events is not what I wanted to write about, but the quality of the exhibited work. For in recent weeks a number of artists important in the field of architecture have shown their work.

Alexander Calder has a new show at the Perls Gallery, the dominant piece in which is a huge construction working its way along the entire floor of a large room. It consists of half a dozen black, vertical, steel sheets, cut to simple, pleasant shapes, connected by other black, horizontal, steel sheets not so high, the ensemble turned in various directions and leading ultimately to a colorful mobile perched on the final vertical. It is extremely architectural; it defines space in itself, and it controls the space in the room where it sits. I can't quite imagine where it might be placed, except outdoors—and yet it gains its own power and scale through being in a restricted, defined interior area. Calder himself didn't seem to be concerned with the problem.

Bernard Rosenthal, who has done sculpture-on-architecture for many California architects, and who several years ago began concentrating on individual pieces and preparing for gallery exhibits, recently showed new work in aluminum, brass, and bronze, also at Viviano's. His pieces, ranging in size from a few feet square to much larger panels, are strips welded on metal background and on other strips, curving, wandering, protruding, the whole treated and finished in a texture which is rich, vibrant, pictorial. In fact most of the comment has been on the likeness of this "sculpture" to painting. To me, the significance of what Rosenthal has done here is again in its architectural implications; the fact that a wall itself could be handled this way, or, conversely, that these pieces made slightly larger (and what artist is not working at larger and larger scale these days?) could in themselves be partitions, dividing space from space in architecture.

Another exhibition with architectural overtones was that of recent work of **Mathias Goeritz** at the Carstairs Gallery. Goeritz, our readers will recall, is the sculptor working in Mexico who did the El Eco building as his contribution to what he called emotional architecture, and then went on to construct the two largest, frankly useless structures in the world as sculptural-architectural approaches to Mexico's new satellite city. He exhibits now a huge construction consisting of two towers on a base, as a suggestion for a new sculptural-architectural-emotional cityscape; and some very handsome wall panels of his own, using metal sheets in various ways—twisted, punched, drilled, burned, painted, burnished—to achieve a three dimensional surface texture.

There have been other interesting shows; for example, **Gyorgy Kepes** exhibited recent oil paintings, strongly influenced, I think, by his research in *The New Landscape* in their sensitive, otherworldly suggestions of this-worldly phenomena, but the ones I have mentioned in more detail seemed to me to be of particular topical interest to architectural visitors to New York.

Would a report of this sort from time to time be interesting to any number of P/A's readers? On our editorial staff we have several people besides myself who get to the shows, and we would be happy to pass on what information we have, if it would be useful. The purpose would be to try to find an answer to the question we asked in our "New Sensualism" articles last fall; what are the directions to look for in architect/sculptor and architect/painter collaboration; will the new architectural forms bring the visual arts closer together in basic form-molding and space-shaping?

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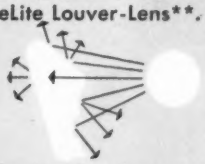

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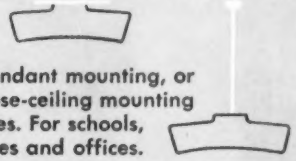

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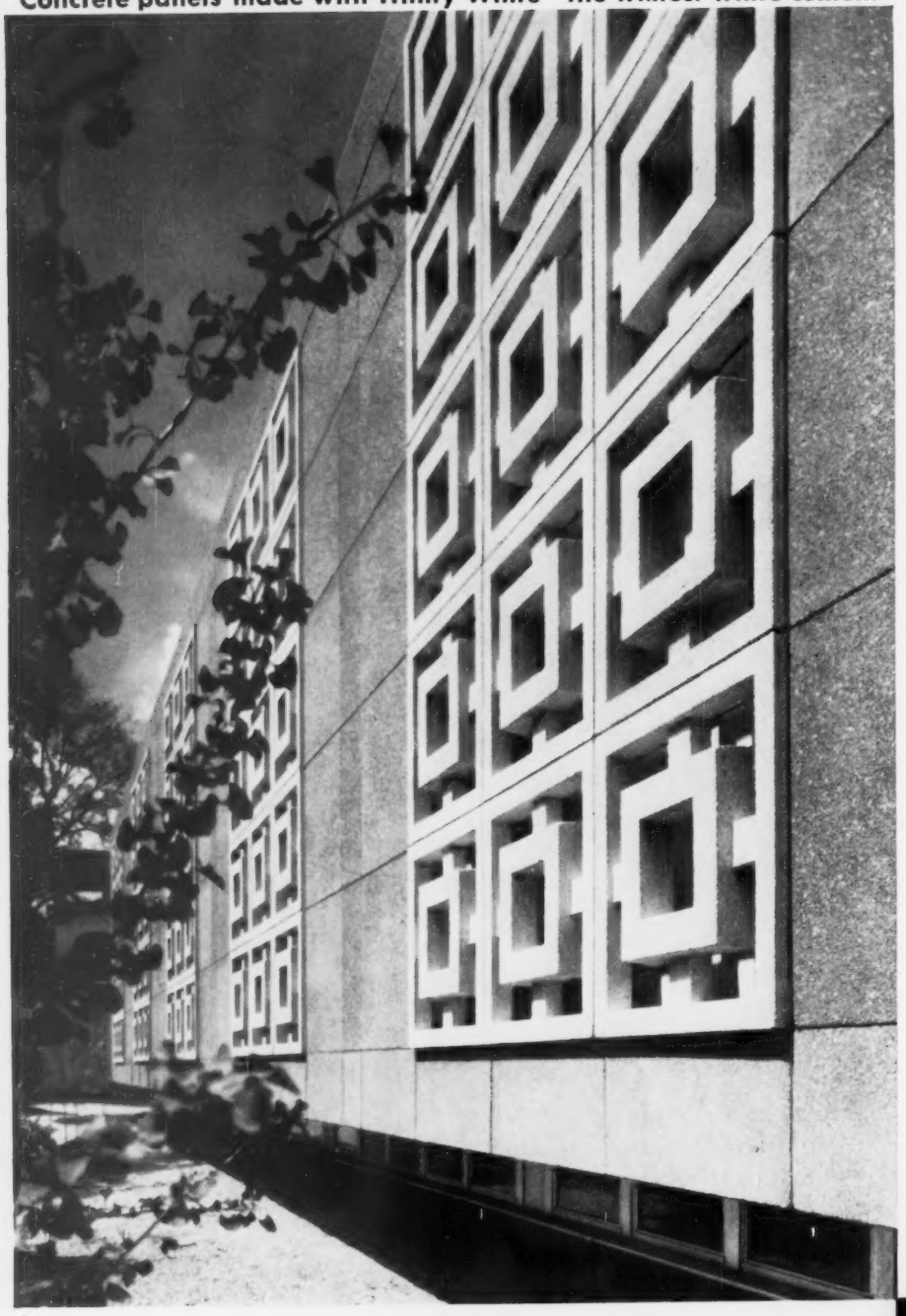

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